PART 70 OPERATING PERMIT
AND ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT

Mulzer Crushed Stone, Inc. (Cape Sandy Facility)
RR1, Box 222, Alton County Road
Leavenworth, Indiana 47137

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 025-7484-00002	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary limestone crushing and processing source.

Responsible Official:	James Mulzer
Source Address:	RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137
Mailing Address:	P.O. Box 249, Tell City, Indiana 47586
Phone Number:	(812) 547-7921
SIC Code:	1422
County Location:	Crawford
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD Rules; (only the three (3) stationary plants) Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of three (3) stationary plants consisting of the following emission units and pollution control devices:

Stationary Plant 1

(a) One (1) primary crusher, known as 1-C-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(b) One (1) secondary crusher, known as 1-C-2, installed in 1986, capacity: 750 tons of limestone per hour.

(c) Two (2) tertiary crushers (A & B), known as 1-C-3, installed in 1962 and 1987 (replaced with identical equipment in 1987), capacity: 500 tons of limestone per hour total.

(d) Two (2) quaternary crushers (A & B), known as 1-C-4, installed in 1962 and 1988 (replaced with identical equipment in 1988), capacity: 120 tons of limestone per hour, each.

(e) Three (3) conveyors, known as 1-TP-1, installed in 1986, capacity: 1,500 tons of limestone per hour, each.

(f) Nine (9) conveyors, known as 1-TP-2, installed in 1986, capacity: 1,200 tons of limestone per hour, each.

(g) Fifteen (15) conveyors, known as 1-TP-3, installed in 1986, capacity: 1,000 tons of limestone per hour, each.

(h) One (1) truck loading and unloading operation, known as 1-TU-1, installed in 1988, capacity: 1,200 tons of limestone per hour.

(i) One (1) bin, installed in 1996, capacity 150 tons of limestone.

(j) One (1) primary screen, known as 1-S-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(k) One (1) secondary screen, known as 1-S-2, installed in 1988, capacity: 1,250 tons of limestone tons per hour.

(l) Six (6) tertiary screens (A - F), known as1-S-3A through 1-S-3F, installed in 1986, capacity: 820 tons of limestone per hour, each.

(m) One (1) final screen, known as 1-S-4, installed in 1986, capacity: 770 tons of limestone per hour.

(n) One (1) rock wash operation, known as 1-RW-1, consisting of dewatering screws, a multi-deck screen, and four (4) conveyors, installed in 1988, capacity: 1,250 tons of limestone per hour.

Stationary Plant 1A

(o) One (1) primary crusher, known as 1A-C-1, installed in 1962, capacity: 800 tons of limestone per hour.

(p) One (1) secondary crusher, known as 1A-C-2, installed in 1966 (replaced with identical equipment in 1992), capacity: 500 tons of limestone per hour.

(q) One (1) tertiary crusher, known as 1A-C-3, installed in 1992, capacity: 400 tons of limestone per hour.

(r) One (1) primary screen, known as 1A-S-1, installed in 1992, capacity: 800 tons of limestone per hour.

(s) Two (2) final screens (A & B), known as 1A-S-2, installed in 1992, capacity: 500 tons of limestone per hour total.

(t) Five (5) conveyors, known as 1A-TP-1, installed in 1992, capacity: 1,000 tons of limestone per hour, each.

(u) Five (5) conveyors, known as 1A-TP-2, installed in 1992, capacity: 800 tons of limestone per hour, each.

(v) Seven (7) conveyors, known as 1A-TP-3, installed in 1992, capacity: 500 tons of limestone per hour, each.

(w) One (1) truck loading and unloading operation, known as 1A-TU-1, installed in 1992, including one (1) bin loading operation, installed in 1996, combined capacity: 1,200 tons of limestone per hour.

Stationary Plant 2

(x) One (1) primary crusher, known as 2-C-1, installed in 1980, replaced with identical equipment in 1994, capacity: 1,200 tons of limestone per hour.

(y) One (1) secondary crusher, known as 2-C-2, installed in 1980, capacity: 900 tons of limestone per hour.

(z) One (1) tertiary crusher, known as 2-C-3, installed in 1980, capacity: 750 tons of limestone per hour.

(aa) Two (2) quaternary crushers (A & B), known as 2-C-4, installed in 1980 (one (1) replaced with identical equipment in 1987), capacity: 370 tons of limestone per hour, each.

(bb) Three (3) conveyors, known as 2-TP-1, installed in 1980, capacity: 1,500 tons of limestone per hour, each.

(cc) Six (6) conveyors, known as 2-TP-2, installed in 1980, capacity: 1,200 tons of limestone per hour, each.

(dd) Eight (8) conveyors, known as 2-TP-3, installed in 1980, capacity: 1,000 tons of limestone per hour, each.

(ee) One (1) primary screen, known as 2-S-1, installed in 1980, capacity: 1,050 tons of limestone per hour.

(ff) One (1) secondary screen, known as 2-S-2, installed in 1980, capacity: 1,150 tons of limestone per hour.

(gg) One (1) tertiary screen, known as 2-S-3, installed in 1980, capacity: 1,245 tons of limestone per hour.

(hh) Five (5) quaternary screens (A - E), known as 2-S-4, installed in 1980, capacity: 1,195 tons of limestone per hour total.

(ii) Two (2) truck loading operations, known as 2-TL-1 and 2-TL-2, installed in 1980, capacity: 1,200 tons of limestone per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

One (1) wet lime aggregate sand classifying plant, known as Sand Plant (SP), and storage pile installed in 1993, capacity: 300 tons of limestone per hour. (326 IAC 6-3)

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

(a) Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7.

(b) This prohibition shall not apply to alleged violations of applicable requirements for which the Commissioner has granted a permit shield in accordance with 326 IAC 2-7-15, as set out in this permit in the Section B condition entitled “Permit Shield.”

B.2 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3.

B.4 Enforceability [326 IAC 2-7-7(a)]

(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM.

(b) Unless otherwise stated, terms and conditions of this permit, including any provisions to limit the source’s potential to emit, are enforceable by the United States Environmental Protection Agency (U.S. EPA) and citizens under the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.6 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that IDEM, OAM, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

(c) Upon request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit. If the Permittee wishes to assert a claim of confidentiality over any of the furnished records, the Permittee must furnish such records to IDEM, OAM, along with a claim of confidentiality under 326 IAC 17. If requested by IDEM, OAM, or the U.S. EPA, to furnish copies of requested records directly to U. S. EPA, and if the Permittee is making a claim of confidentiality regarding the furnished records, then the Permittee must furnish such confidential records directly to the U.S. EPA along with a claim of confidentiality under 40 CFR 2, Subpart B.

B.9 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit, except those specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act and is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.10 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, on the attached Certification Form, with each submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The certification shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was based on continuous or intermittent data;

(4) The methods used for determining compliance of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAM, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

B.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAM, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Management, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted notice, either in writing or facsimile, of the emergency to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions) for sources subject to this rule after the effective date of this rule. This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAM, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAM, by telephone or facsimile of an emergency lasting more than one (1) hour in compliance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.14 Permit Shield [326 IAC 2-7-15]

(a) This condition provides a permit shield as addressed in 326 IAC 2-7-15.

(b) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. Compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that:

(1) The applicable requirements are included and specifically identified in this permit; or

(2) The permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAM, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(e) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408 (a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAM, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAM, has issued the modification. [326 IAC 2-7-12(b)(7)]

B.15 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.16 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive

measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ten (10) calendar days from the date of the discovery of the deviation.

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) An emergency as defined in 326 IAC 2-7-1(12); or

(3) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Written notification shall be submitted on the attached Emergency/Deviation Occurrence Reporting Form or its substantial equivalent. The notification does not need to be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Proper notice submittal under 326 IAC 2-7-16 satisfies the requirement of this subsection.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAM, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAM, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for

which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAM, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAM, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(2) If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAM, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAM, any additional information identified as being needed to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAM, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.19 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Operational Flexibility [326 IAC 2-7-20]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-1.1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20 (b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAM, in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a) and the following additional conditions:

(1) The permit shield, described in 326 IAC 2-7-15, shall not apply to any change made under 326 IAC 2-7-20(b).

(2) For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(i) A brief description of the change within the source;

(ii) The date on which the change will occur;

(iii) Any change in emissions; and

(iv) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAM, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification require-

ments of part (a) of this condition do not apply.

B.22 Construction Permit Requirement [326 IAC 2]

A modification, construction, or reconstruction shall be approved as required by and in accordance with the applicable provision of 326 IAC 2.

B.23 Inspection and Entry [326 IAC 2-7-6(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
[326 IAC 2-7-6(6)]

B.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM, OAM, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAM, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAM, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4 for Stationary Plants 1, 1A and 2.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period for Stationary Plants 1, 1A and 2.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. The provisions of 326 IAC 9-1-2 are not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on August 18, 1998. The plan for Stationary Plants 1, 1A and 2 consists of using a water truck to water haul roads and stock piles as necessary.

C.7 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with applicable the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Schedule [326 IAC 2-7-6(3)]

The Permittee:

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

(b) Has submitted a statement that the Permittee will continue to comply with such requirements; and

(c) Will comply with such applicable requirements that become effective during the term of this permit.

C.11 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this permit. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 11, 1996.

(b) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(c) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(d) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(e) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM, OAM, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM, OAM, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submit-

ted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM on or before the date it is due.

C.18 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

(a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit.

(d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-Annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM on or before the date it is due.

(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports. The Emergency/Deviation Occurrence Report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

Stratospheric Ozone Protection

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] **Stationary Plant 1**

(a) One (1) primary crusher, known as 1-C-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(b) One (1) secondary crusher, known as 1-C-2, installed in 1986, capacity: 750 tons of limestone per hour.

(c) Two (2) tertiary crushers (A & B), known as 1-C-3, installed in 1962 and 1987 (replaced with identical equipment in 1987), capacity: 500 tons of limestone per hour total.

(d) Two (2) quaternary crushers (A & B), known as 1-C-4, installed in 1962 and 1988 (replaced with identical equipment in 1988), capacity: 120 tons of limestone per hour, each.

(e) Three (3) conveyors, known as 1-TP-1, installed in 1986, capacity: 1,500 tons of limestone per hour, each.

(f) Nine (9) conveyors, known as 1-TP-2, installed in 1986, capacity: 1,200 tons of limestone per hour, each.

(g) Fifteen (15) conveyors, known as 1-TP-3, installed in 1986, capacity: 1,000 tons of limestone per hour, each.

(h) One (1) truck loading and unloading operation, known as 1-TU-1, installed in 1988, capacity: 1,200 tons of limestone per hour.

(i) One (1) bin, installed in 1996, capacity 150 tons of limestone.

(j) One (1) primary screen, known as 1-S-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(k) One (1) secondary screen, known as 1-S-2, installed in 1988, capacity: 1,250 tons of limestone tons per hour.

(l) Six (6) tertiary screens (A - F), known as1-S-3A through 1-S-3F, installed in 1986, capacity: 820 tons of limestone per hour, each.

(m) One (1) final screen, known as 1-S-4, installed in 1986, capacity: 770 tons of limestone per hour.

(n) One (1) rock wash operation, known as 1-RW-1, consisting of dewatering screws, a multi-deck screen, and four (4) conveyors, installed in 1988, capacity: 1,250 tons of limestone per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed 83.0 pounds per hour when operating at a process weight rate of 1,500 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed ten percent (10%) opacity for conveyors and fifteen percent (15%) opacity for crushers.

D.1.2 Prevention of Significant Deterioration [326 IAC 2-2]

Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

D.1.3 Opacity [40 CFR 60.670 through 60.676, Subpart OOO]

Pursuant to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.670 through 60.676, Subpart OOO:

(a) The crushing operations (1-C-1, 1-C-2 and 1-C-3B) are limited to fifteen percent (15%) opacity or less in twenty-four (24) consecutive readings in a six (6) minute period, and

(b) The screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations are limited to ten percent (10%) opacity or less in twenty-four (24) consecutive readings in a six (6) minute period.

(c) Compliance shall be determined by 40CFR 60, Appendix A, Method 9.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the crushing (1-C-1, 1-C-2 and 1-C-3B), screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11] [NSPS Subpart OOO]

Within five (5) years from the date of the latest valid compliance demonstration, the Permittee shall perform opacity testing, the Permittee shall perform opacity testing for the crushing (1-C-1, 1-C-2 and 1-C-3B), screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.6 Visible Emissions Notations

(a) Visible emission notations of the crushing (1-C-1, 1-C-2 and 1-C-3B), screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.7 Record Keeping Requirements

(a) To document compliance with Condition D.1.3, the Permittee shall maintain records of opacity notations of the limestone crushing, screening and conveying operations.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain records of daily visible emission notations for the crushing (1-C-1, 1-C-2 and 1-C-3B), the screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.8 Reporting Requirements

Pursuant to the New Source Performance Standards (NSPS), Part 60.670 through 60.676, Subpart OOO, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times and shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit:

(a) commencement of construction date;

(b) actual start-up date; and

(c) date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] **Stationary Plant 1A**

(o) One (1) primary crusher, known as 1A-C-1, installed in 1962, capacity: 800 tons of limestone per hour.

(p) One (1) secondary crusher, known as 1A-C-2, installed in 1966 (replaced with identical equipment in 1992), capacity: 500 tons of limestone per hour.

(q) One (1) tertiary crusher, known as 1A-C-3, installed in 1992, capacity: 400 tons of limestone per hour.

(r) One (1) primary screen, known as 1A-S-1, installed in 1992, capacity: 800 tons of limestone per hour.

(s) Two (2) final screens (A & B), known as 1A-S-2, installed in 1992, capacity: 500 tons of limestone per hour total.

(t) Five (5) conveyors, known as 1A-TP-1, installed in 1992, capacity: 1,000 tons of limestone per hour, each.

(u) Five (5) conveyors, known as 1A-TP-2, installed in 1992, capacity: 800 tons of limestone per hour, each.

(v) Seven (7) conveyors, known as 1A-TP-3, installed in 1992, capacity: 500 tons of limestone per hour, each.

(w) One (1) truck loading and unloading operation, known as 1A-TU-1, installed in 1992, including one (1) bin loading operation, installed in 1996, combined capacity: 1,200 tons of limestone per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed 80.0 pounds per hour when operating at a process weight rate of 1,200 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed ten percent (10%) opacity for conveyors and fifteen percent (15%) opacity for crushers.

D.2.2 Prevention of Significant Deterioration [326 IAC 2-2]

Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

D.2.3 Opacity [40 CFR 60.670 through 60.676, Subpart OOO]

Pursuant to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.670 through 60.676, Subpart OOO:

(a) The crushing operations (1A-C-3) are limited to fifteen percent (15%) opacity or less in twenty-four (24) consecutive readings in a six (6) minute period, and

(b) The screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2 and 1A-TP-3) operations are limited to ten percent (10%) opacity or less in twenty-four (24) consecutive readings in a six (6) minute period.

(c) Compliance shall be determined by 40CFR 60, Appendix A, Method 9.

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2 and 1A-TP-3) operations.

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11] [NSPS Subpart OOO]

Within five (5) years from the date of the latest valid compliance demonstration, the Permittee shall perform opacity testing for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2 and 1A-TP-3) operations. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.6 Visible Emissions Notations

(a) Visible emission notations of the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2 and 1A-TP-3) operations shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.7 Record Keeping Requirements

(a) To document compliance with Condition D.2.3, the Permittee shall maintain records of opacity notations of the limestone crushing, screening and conveying operations.

(b) To document compliance with Condition D.2.6, the Permittee shall maintain records of daily visible emission notations for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2 and 1A-TP-3) operations.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.8 Reporting Requirements

Pursuant to the New Source Performance Standards (NSPS), Part 60.670 through 60.676, Subpart OOO, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times and shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit:

(a) commencement of construction date;

(b) actual start-up date; and

(c) date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] **Stationary Plant 2**

(x) One (1) primary crusher, known as 2-C-1, installed in 1980, replaced with identical equipment in 1994, capacity: 1,200 tons of limestone per hour.

(y) One (1) secondary crusher, known as 2-C-2, installed in 1980, capacity: 900 tons of limestone per hour.

(z) One (1) tertiary crusher, known as 2-C-3, installed in 1980, capacity: 750 tons of limestone per hour.

(aa) Two (2) quaternary crushers (A & B), known as 2-C-4, installed in 1980 (one (1) replaced with identical equipment in 1987), capacity: 370 tons of limestone per hour, each.

(bb) Three (3) conveyors, known as 2-TP-1, installed in 1980, capacity: 1,500 tons of limestone per hour, each.

(cc) Six (6) conveyors, known as 2-TP-2, installed in 1980, capacity: 1,200 tons of limestone per hour, each.

(dd) Eight (8) conveyors, known as 2-TP-3, installed in 1980, capacity: 1,000 tons of limestone per hour, each.

(ee) One (1) primary screen, known as 2-S-1, installed in 1980, capacity: 1,050 tons of limestone per hour.

(ff) One (1) secondary screen, known as 2-S-2, installed in 1980, capacity: 1,150 tons of limestone per hour.

(gg) One (1) tertiary screen, known as 2-S-3, installed in 1980, capacity: 1,245 tons of limestone per hour.

(hh) Five (5) quaternary screens (A - E), known as 2-S-4, installed in 1980, capacity: 1,195 tons of limestone per hour total.

(ii) Two (2) truck loading operations, known as 2-TL-1 and 2-TL-2, installed in 1980, capacity: 1,200 tons of limestone per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed 83.0 pounds per hour when operating at a process weight rate of 1,500 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed those specified in Condition C.2.

D.3.2 Prevention of Significant Deterioration [326 IAC 2-2]

Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if these facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.3.4 Visible Emissions Notations

(a) Visible emission notations of the crushing (2-C-1, 2-C-2, 2-C-3 and 2-C-4), screening (2-S-1, 2-S-2, 2-S-3 and 2-S-4) and conveying (2-TP-1, 2-TP-2 and 2-TP-3) operations shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.3.5 Record Keeping Requirements

(a) To document compliance with Condition D.3.4, the Permittee shall maintain records of daily visible emission notations for the crushing (2-C-1, 2-C-2, 2-C-3 and 2-C-4), screening (2-S-1, 2-S-2, 2-S-3 and 2-S-4) and conveying (2-TP-1, 2-TP-2 and 2-TP-3) operations.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] - Insignificant Activity

One (1) wet lime aggregate sand classifying plant, known as Sand Plant (SP), and storage pile installed in 1993, capacity: 300 tons of limestone per hour. (326 IAC 6-3)

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the Sand Plant shall not exceed 63.0 pounds per hour allowable PM emission rate based a process weight rate of 300 tons per hour and the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed those specified in Condition C.2.

Compliance Determination Requirement

D.4.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if this facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.4.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Mulzer Crushed Stone, Inc. (Cape Sandy Facility)
Source Address: RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137
Mailing Address: P.O. Box 249, Tell City, Indiana 47586
Part 70 Permit No.: T 025-7484-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY/DEVIATION OCCURRENCE REPORT

Source Name: Mulzer Crushed Stone, Inc. (Cape Sandy Facility)
Source Address: RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137
Mailing Address: P.O. Box 249, Tell City, Indiana 47586
Part 70 Permit No.: T 025-7484-00002

This form consists of 2 pages **Page 1 of 2**

Check either No. 1 or No.2
9 1. This is an emergency as defined in 326 IAC 2-7-1(12) C The Permittee must notify the Office of Air Management (OAM), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and C The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16
9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(C) C The Permittee must submit notice in writing within ten (**10**) calendar days

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency/Deviation:
Describe the cause of the Emergency/Deviation:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency/deviation:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: Mulzer Crushed Stone, Inc. (Cape Sandy Facility)
Source Address: RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137
Mailing Address: P.O. Box 249, Tell City, Indiana 47586
Part 70 Permit No.: T 025-7484-00002

Months: _____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Part 70 Operating Permit

Source Name:	**Mulzer Crushed Stone, Inc. (Cape Sandy Facility)**
Source Location:	**RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137**
County:	**Crawford**
Part 70 Operating Permit:	**OP T 025-7484-00002**
SIC Code:	**1422**
Permit Reviewer:	**Mark L. Kramer**

On July 28, 1999, the Office of Air Management (OAM) had a notice published in the Clarion News, English, Indiana, stating that Mulzer Crushed Stone, Inc. (Cape Sandy Facility) had applied for a Part 70 Operating Permit to operate a stationary limestone crushing and processing source. In addition, a portable plant, initially located at this same source, is being permitted separately under a Part 70 Permit, T 025-10885-05199. The notice also stated that OAM proposed to issue a Part 70 Operating Permit for this operation and provided information on how the public could review the proposed Part 70 Operating Permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Part 70 Operating Permit should be issued as proposed.

On August 20, 1999, Brian Peters of Mulzer Crushed Stone, submitted comments on the proposed Part 70 Operating Permit. The permit language, if changed, has deleted language appearing as ~~strikeouts~~ and new language as **bold.** The comments are as follows:

Comment 1:

Regarding the emission unit descriptions, some of the units have the prefix “EU” before the emission unit ID, while others do not. We wish to request that a find-and-replace be performed in order to delete the EU prefixes.

Comment 2:

Regarding A.2 (c), Stationary Plant 1, the second tertiary crusher (B) of emission unit 1-C-3 was installed in 1987 as a replacement for a crusher of equal capacity. Please make the following revisions, indicated by Italicized and Strikeout text.

(c) Two tertiary crushers (A & B), known as ~~EU~~ 1-C-3, installed in 1962 and ~~1988~~ *1987 (replaced with identical equipment in 1987)*, capacity: 500 tons of limestone per hour total.

Comment 3:

Regarding A.2 (d), Stationary Plant 1, emission unit 1-C-4 is comprised of two quaternary crushers. The second quaternary crusher (B) was installed in 1988 as a replacement for a crusher of equal capacity. Please make the following revisions, indicated by Italicized and Strikeout text.

(d) ~~One (1)~~ *Two (2)* quaternary crushers *(A & B)*, known as 1-C-4, installed in 1962 *and 1988 (*replaced with identical equipment in ~~1987~~ *1988)*, capacity: 120 tons of limestone per hour *each*.

Comment 4:

During past discussion of our draft Title V permit, we have specified conveyance equipment in terms of groups of conveyors. In order to insure that the Title V permit correctly reflects the actual number

of conveyors present, we wish to specify the number of individual conveyor units at each plant. The following Table 1 gives this information. We apologize for any inconvenience.

Table 1
Number of Conveyors at Each Cape Sandy Plant

Plant	ID	Number of Conveyors	Individual Capacities * (tons/hr)
1	1-TP-1	3	1,500
1	1-TP-2	9	1,200
1	1-TP-3	15	1,000
1A	1A-TP-1	5	1,000
1A	1A-TP-2	5	800
1A	1A-TP-3	7	500
2	2-TP-1	3	1,500
2	2-TP-2	6	1,200
2	2-TP-3	8	1,000

* Conveyors with capacities below 388 tons/hr are insignificant sources.

Comment 5:

Regarding A.2 (e) through (h), Stationary Plant 1, (u) through (y), Stationary Plant 1A, and (ff) through (hh), Stationary Plant 2 (including the corresponding D-Section entries), please revise the equipment descriptions using the information given in Table 1. The following entry is an example for Plant 1, 1-TP-1.

(u)[sic (e)] Three (3) conveyors, known as 1-TP-1, installed in 1986, each with a capacity of 1500 tons/hr.

With the exception of the two conveyors installed at Plant 1 in 1996, currently identified in the permit as 1-TP-4, the conveyors at each plant have the same installation date as shown in the permit. Those two conveyors at Plant 1 that were installed in 1996 would be included in group 1-TP-3.

Comment 6:

Regarding A.2 (i), Stationary Plant 1, and A.2 (mm), Stationary Plant 2, we believe that the truck loading and unloading operations, known as 1-TU-1, 2-TL-1 and 2-TL-2, should be specified as insignificant activities or included in the Specifically Regulated Insignificant Activities section. The AP-42 emission factor for this Crushed Stone Processing activity, at Table 11.19.2-2 in AP-42 (01/1995), is 0.00010 lb. PM_{10} and 0.00021 lb. PM per ton of stone throughput. With a capacity of 1,200 tons of limestone per hour, the potential to emit for these operations is 0.12 lbs./hr or 0.53 tons/yr PM_{10} and 0.252 lbs./hr or 1.10 tons/yr PM. The insignificant activity threshold is 5.0 tons/yr PM or PM_{10}. Therefore, these operations are insignificant activities. We request that the truck loading and unloading operations either be specified as insignificant activities in the equipment description or included in the Specifically Regulated Insignificant Activities section.

Please also note that the capacity specified for A.2 (i), 1250 tons/hr, should be 1200 tons/yr. We request that this capacity be revised in the permit.

Comment 7:

Regarding A.2 (aa), Stationary Plant 1A, the emission unit identified as a "bin" should have been

"truck loading and unloading operations, known as 1A-TL-1, installed in 1992, including one bin loading operation, installed in 1996, combined capacity: 1200 tons of limestone per hour." We request that this revision be made.

Following the argument given above, we believe that the truck loading and unloading operations, known as 1A-TU-1, should be specified as insignificant activities in the equipment description or included in the Specifically Regulated Insignificant Activities section. We therefore request that one of these changes be made.

Comment 8:

Regarding A.2 (m), Stationary Plant 1, the six tertiary screens (A-F) should be identified as 1-S-3A through 1-S-3F. We request that this revision be made.

Comment 9:

Regarding A.2 (n), Stationary Plant 1, the final screen should be identified as 1-S-4. We request that this revision be made.

Comment 10:

Regarding A.2 (o), Stationary Plant 1, we request that the following addition be made to the rock wash description.

(o) One (1) rock wash operation, known as 1-RW-1, *consisting of dewatering screws, a multi-deck screen, and four (4) conveyors*, installed in 1988, capacity: 1,250 tons of limestone per hour.

Comment 11:

Regarding A.2 (q), Stationary Plant 1A, this crusher was replaced with a crusher of equal capacity in 1992. We request that the following addition be made to the description.

(q) One (1) secondary crusher, known as 1A-C-2, installed in 1966 *and replaced with identical equipment in 1992*, capacity: 500 tons of limestone per hour.

Comment 12:

Regarding A.2 (t), Stationary Plant 1A, emission unit 1A-S-2 is comprised of two final screens, both installed in 1992. Please make the following revisions, indicated by Italicized and Strikeout text. Furthermore, in correspondence received October 1, 1999, A.2 (x) (y) and (z) should be deleted since these conveyors are included in (u), (v) and (w), now items (t), (u) and (v).

(t) ~~One (1)~~ *Two (2)* final screens *(A & B)*, known as 1A-S-2, installed in 1992, capacity: 500 tons of limestone per hour *combined*.

Comment 13:

Regarding A.2 (dd), Stationary Plant 2, the tertiary crusher, 2-C-3, should have a capacity of 750 tons/hr. We request that this revision be made.

Comment 14:

Regarding A.2 (ee), Stationary Plant 2, emission unit 2-C-4 is comprised of two quaternary crushers. The second quaternary crusher (B) was installed in 1987 as a replacement for a crusher of equal capacity, initially installed in 1980. Please make the following revisions, indicated by Italicized and Strikeout text.

(ee) ~~One (1)~~ *Two (2)* quaternary crusher*s (A & B)*, known as 2-C-4, installed in 1980 *(one replaced with identical equipment in 1987)*, capacity: 370 tons of limestone per hour *each*.

Responses 1 - 14:

All references to Emission Unit (EU) have been deleted from Sections D.1, D.2 and D.3 and Condition A.2. Condition A.2 has been revised to incorporate Comments 2 - 14 as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of three (3) stationary plants consisting of the following emission units and pollution control devices:

Stationary Plant 1

(a) One (1) primary crusher, known as ~~EU~~ 1-C-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(b) One (1) secondary crusher, known as ~~EU~~ 1-C-2, installed in 1986, capacity: 750 tons of limestone per hour.

(c) Two (2) tertiary crushers (A & B), known as ~~EU~~ 1-C-3, installed in 1962 and ~~1988~~ **1987 (replaced with identical equipment in 1987)**, capacity: 500 tons of limestone per hour total.

(d) ~~One (1)~~ **Two (2)** quaternary crusher**s (A & B)**, known as 1-C-4, installed in 1962 **and 1988** *(*replaced with identical equipment in ~~1987~~ **1988***)*, capacity: 120 tons of limestone per hour, **each.**

(e) ~~One (1)~~ **Three (3)** conveyor**s**, known as 1-TP-1, installed in 1986, capacity: ~~500~~ **1,500** tons of limestone per hour**, each**.

(f) ~~One (1)~~ **Nine (9)** conveyor**s**, known as 1-TP-2, installed in 1986, capacity: ~~500~~ **1,200** tons of limestone per hour**, each**.

(g) ~~One (1)~~ **Fifteen (15)** conveyor**s**, known as 1-TP-3, installed in 1986, capacity: ~~120~~ **1,000** tons of limestone per hour**, each**.

~~(h) Two (2) conveyors, known as T-TP-4, installed in 1996, capacity: 100 tons of limestone per hour, each.~~

(~~i~~**h**) One (1) truck loading and unloading operation, known as 1-TU-1, installed in 1988, capacity: ~~1,250~~ **1,200** tons of limestone per hour.

(~~j~~**i**) One (1) bin, installed in 1996, capacity 150 tons of limestone.

(~~k~~**j**) One (1) primary screen, known as ~~EU~~ 1-S-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(~~l~~**k**) One (1) secondary screen, known as ~~EU~~ 1-S-2, installed in 1988, capacity: 1,250 tons of limestone tons per hour.

(~~m~~**l**) Six (6) tertiary screens (A - F), known as ~~EU~~ 1-S-3A **through 1-S-3F**, installed in 1986, capacity: 820 tons of limestone per hour, each.

(~~n~~**m**) One (1) final screen, known as ~~EU~~ 1-S-~~F~~**4**, installed in 1986, capacity: 770 tons of limestone per hour.

(~~o~~**n**) One (1) rock wash operation, known as 1-RW-1, **consisting of dewatering screws, a multi-deck screen, and four (4) conveyors,** installed in 1988, capacity: 1,250 tons of limestone per hour.

Stationary Plant 1A

(~~p~~**o**) One (1) primary crusher, known as ~~EU~~ 1A-C-1, installed in 1962, capacity: 800 tons of limestone per hour.

(~~q~~**p**) One (1) secondary crusher, known as ~~EU~~ 1A-C-2, installed in 1966 **(replaced with identical equipment in 1992)**, capacity: 500 tons of limestone per hour.

(~~r~~**q**) One (1) tertiary crusher, known as 1A-C-3, installed in 1992, capacity: 400 tons of limestone per hour.

(~~s~~**r**) One (1) primary screen, known as 1A-S-1, installed in 1992, capacity: 800 tons of limestone per hour.

(~~t~~**s**) ~~One (1)~~ **Two (2)** final screen**s (A & B)**, known as 1A-S-2, installed in 1992, capacity: 500 tons of limestone per hour **total**.

(~~u~~**t**) ~~One (1)~~ **Five (5)** conveyor**s**, known as 1A-TP-1, installed in 1992, capacity: ~~400~~ **1,000** tons of limestone per hour**, each**.

(~~v~~**u**) ~~One (1)~~ **Five (5)** conveyor**s**, known as 1A-TP-2, installed in 1992, capacity: ~~400~~ **800** tons of limestone per hour**, each**.

(~~w~~**v**) ~~One (1)~~ **Seven (7)** conveyor**s**, known as 1A-TP-3, installed in 1992, capacity: ~~400~~ **500** tons of limestone per hour**, each**.

~~(x) One (1) conveyor, known as 1A-TP-4, installed in 1992, capacity: 100 tons of limestone per hour.~~

~~(y) One (1) conveyor, known as 1A-TP-5, installed in 1992, capacity: 650 tons of limestone per hour.~~

~~(z) One (1) conveyor, known as 1A-TP-6, installed in 1992, capacity: 650 tons of limestone per hour.~~

(~~aa~~**w**) **One (1) truck loading and unloading operation, known as 1A-TU-1, installed in 1992, including ~~O~~o**ne **(1)** bin **loading operation**, installed in 1996, **combined** capacity: ~~150~~ **1,200** tons of limestone **per hour**.

Stationary Plant 2

(~~bb~~**x**) One (1) primary crusher, known as 2-C-1, installed in 1980, replaced with identical equipment in 1994, capacity: 1,200 tons of limestone per hour.

(~~cc~~**y**) One (1) secondary crusher, known as 2-C-2, installed in 1980, capacity: 900 tons of limestone per hour.

(~~dd~~**z**) One (1) tertiary crusher, known as 2-C-3, installed in 1980, capacity: ~~250~~ **750** tons of limestone per hour.

(~~ee~~**aa**) ~~One (1)~~ **Two (2)** quaternary crusher**s (A & B)**, known as 2-C-4, installed in 1980 **(one (1) replaced with identical equipment in 1987)**, capacity: 370 tons of limestone per hour**, each**.

(~~ff~~**bb**) ~~One (1)~~ **Three (3)** conveyor**s**, known as 2-TP-1, installed in 1980, capacity: ~~250~~ **1,500** tons of limestone per hour**, each**.

(~~gg~~**cc**) ~~One (1)~~ **Six (6)** conveyor**s**, known as 2-TP-2, installed in 1980, capacity: ~~370~~ **1,200** tons of limestone per hour**, each**.

(~~hh~~**dd**) ~~One (1)~~ **Eight (8)** conveyor**s**, known as 2-TP-3, installed in 1980, capacity: ~~250~~ **1,000** tons of limestone per hour**, each**.

(~~ii~~**ee**) One (1) primary screen, known as ~~EU~~ 2-S-1, installed in 1980, capacity: 1,050 tons of limestone per hour.

(~~jj~~**ff**) One (1) secondary screen, known as ~~EU~~ 2-S-2, installed in 1980, capacity: 1,150 tons of limestone per hour.

(~~kk~~**gg**) One (1) tertiary screen, known as ~~EU~~ 2-S-3, installed in 1980, capacity: 1,245 tons of limestone per hour.

(~~ll~~**hh**) Five (5) quaternary screens (A - E), known as ~~EU~~ 2-S-4, installed in 1980, capacity: 1,195 tons of limestone per hour total.

(~~mm~~**ii**) Two (2) truck loading operations, known as 2-TL-1 and 2-TL-2, installed in 1980, capacity: 1,200 tons of limestone per hour.

The changes in the number of facilities and capacities shown above were either exempt, implied in the existing permits or were unpermitted, but claimed as limited liability. Specifically, the two (2) quaternary crushers (A & B), known as 1-C-4, item (d) of the equipment list, were exempt because the potential to emit PM_{10} was 0.29 pounds per hour and was 0.60 pounds per hour of PM. The twenty-seven (27) conveyors, known as 1-TP-1, 1-TP-2 and 1-TP-3, items (e), (f) and (g) of the equipment list, were covered in OP 13-11-90-0034, issued May 27, 1987 by the "conveying operations". The multi-deck screen and four (4) conveyors, known as 1-RW-1, item (n), were exempt since the potential to emit PM_{10} was 0.125 pounds per hour and was 0.263 pounds per hour of PM. The two (2) final screens (A & B), known as 1A-S-2, item (s) of the equipment list, were permitted by CP 025-1952-00002, issued April 15, 1991. The seventeen (17) conveyors, known as 1A-TP-1,

1A-TP-2 and 1A-TP-3, items (t), (u) and (v) of the equipment list, were not specifically list in CP 025-1952-00002, but the conveyors could be assumed to have been included as implied equipment that was integral to the crushers, screens and stackers that were listed in this permit. The one (1) truck loading and unloading operation, known as 1A-TU-1, item (w) of the equipment list were exempt because the potential to emit PM_{10} was 0.12 pounds per hour and was 0.25 pounds per hour of PM. The additional quaternary crushers and conveyors at Stationary Plant 2, known as 2-C-4 and 2-TP-1, 2-TP-2 and 2-TP-3, items (aa), (bb), (cc) and (dd) of the equipment list, were not permitted.

The request to segregate certain activities within the processing line as insignificant activities due to an individual facility's actual emissions has not been implemented since, for examples, the conveyors are in series and therefore, a given conveyor is not an insignificant activity, but rather part of the significant activity referred to as conveying within the NSPS Subpart OOO.

As a result of the aforementioned changes in equipment and/or capacities, the detailed emission calculations have been revised on pages 1 - 20 of Appendix A of the TSD Addendum. Pages 19 and 20 of 20 of this Appendix present the revised total potential emissions from the unpermitted emission units and the unpermitted capacity increases.

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

(a) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards (NSPS) that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

(b) Pages 19 and 20 of Appendix A demonstrate that at the three (3) stationary plants, the potential emissions for the modifications after control of the nonfugitive emissions from the unpermitted emission units and the unpermitted increased capacities are still less than the PSD threshold level of 250 tons per year.

(c) The three (3) stationary plants plus the portable plant covered under T 025-10885-05199 are classified as a minor source pursuant to 326 IAC 2-2 and 40 CFR 52.21.

In addition, the following tables abstracted from the Technical Support Document (TSD) have been revised to document the changes from the values listed in the TSD to the revised values due to aforementioned equipment changes as follows.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

	Potential To Emit (tons/year)			
Pollutant	**Plant 1**	**Plant 1A**	**Stationary Plant 2**	**Total Source**
PM	from 831 to 846	from 535 to 545	from 1,315 to 1,354	from 2,681 to 2,745
PM_{10}	from 328 to 335	from 212 to 218	from 500 to 516	from 1,040 to 1,069
SO_2	0.00	0.00	0.00	0.00
VOC	0.00	0.00	0.00	0.00
CO	0.00	0.00	0.00	0.00
NO_X	0.00	0.00	0.00	0.00

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Plant 1	from 23.6 to 327	from 11.2 to 124	0.00	0.00	0.00	0.00	0.00
Plant 1A	from 15.3 to 212	from 7.29 to 82.5	0.00	0.00	0.00	0.00	0.00
Stationary Plant 2	from 23.2 to 573	from 11.3 to 211	0.00	0.00	0.00	0.00	0.00
Insignificant Activities	2.50	2.50	0.00	0.750	0.00	0.00	0.750
Total Emissions	from 64.6 to 1,115	from 32.3 to 420	0.00	0.750	0.00	0.00	0.750

The limited potential emissions shown in the above table reflect the sum of the revised nonfugitive and inclusion of the fugitive emissions.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the each plant shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The allowable PM emission rates shall not exceed the following based upon the revised maximum process weight rate in the table:

Operation	**Process Weight Rate** (tons per hour)	**Allowable PM Emission Rate** (pounds per hour)	**Potential PM Emission Rate After Controls** (pounds per hour)
Plant 1	**1,500** ~~1,250~~	**83.0** ~~80.5~~	**5.74** ~~5.39~~
Plant 1A	**1,200** ~~800~~	**80.0** ~~74.7~~	**3.67** ~~3.49~~
Stationary Plant 2	**1,500** ~~1,245~~	**83.0** ~~80.5~~	**6.17** ~~5.30~~
Insignificant Activity Sand Plant	300	63.0	Less than 5

All plants comply with the allowable PM emission rates.

Therefore, Conditions D.1.1, D.2.1 and D.3.1 have been revised as follows due to the changes in maximum process weight rates:

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed 83.0 ~~80.5~~ pounds per hour when operating at a process weight rate of **1,500** ~~1,250~~ tons per hour.

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed **80.0** ~~74.7~~ pounds per hour when operating at a process weight rate of **1,200** ~~800~~ tons per hour.

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the nonfugitive limestone processing operations shall not exceed **83.0** ~~80.5~~ pounds per hour when operating at a process weight rate of **1,500** ~~1,245~~ tons per hour.

Comment 15:

Regarding B.12, D.1.4 and D.2.4, Preventive Maintenance Plan, we wish to state that our interpretation of the current wording of Condition B.12 is that preventive maintenance plans are only required to include maintenance information relating to emission control devices and only those emission units where maintenance on the emission unit itself would affect emissions. This interpretation is in agreement with what we have learned about recent decisions for Title V permit appeal cases. We wish to request that, in the Response to Comments document, IDEM confirm that our interpretation of preventive maintenance plan requirements, as stated above, is correct.

Response 15:

As stated in subsection (a) of Condition B.12, a PMP is not needed unless specifically required in Section D. If lack of proper maintenance could cause or contribute to a violation of any limitation on emissions or potential to emit, then a Preventive Maintenance Plan will be required even if there is no control device. In this case, the IDEM, OAM has determined that the facilities in Sections D.1 and D.2 require a preventive maintenance plan as required in Conditions D.1.4 and D.2.4.

However, due to the deletion of conveyors, known as 1A-TP-4, 1A-TP-5 and 1A-TP-6 in the equipment list (items (x), (y) and (z)), Conditions D.2.3 and D.2.4(b) have been revised as follows:

D.2.3 Opacity [40 CFR 60.670 through 60.676, Subpart OOO]

(b) The screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2~~,~~ **and** 1A-TP-3~~, 1A-TP-4, 1A-TP-5 and 1A-TP-6~~) operations are limited to ten percent (10%) opacity or less in twenty-four (24) consecutive readings in a six (6) minute period.

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2~~,~~ **and** 1A-TP-3~~, 1A-TP-4, 1A-TP-5 and 1A-TP-6~~) operations.

Comment 16:

Regarding C.7, Operation of Equipment, although the water sprays that have been installed to control particulate matter emissions are normally in operation during limestone processing, they are not required *at all times* to achieve compliance with the applicable opacity and particulate emission limits. The draft permit conditions in the D-sections require that the emission units meet specific opacity limitations, but not that water sprays be used to achieve compliance with these limitations. It is also important to note that the NSPS that we are required to follow, 40 CFR 60 Subpart OOO, contains opacity limitations but not requirements that water sprays or other specific control methods be used. We believe that the D-section conditions have been properly written, and request that condition C.7 be removed from the draft permit in order to remain consistent with the intent of the D sections. Alternately, additional text could be added to the permit stating that the water sprays may be used voluntarily in order to maintain compliance with the applicable opacity limitations.

Response 16:

Nowhere in the permit are water sprays required. Therefore, as stated in Condition C.7, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation. Although there are no conditions requiring the use of water sprays, Condition C.7 has not been deleted from the permit.

Comment 17:

Regarding C.15, D.1.6 (e), D.2.6 (e) and D.3.4 (e), Compliance Monitoring Plan, we do not believe that 40 CFR Part 70, or 326 IAC 2-7 provides any authority to require the preparation of a Compliance Response Plan (CRP) or to establish the basis for a violation of the permit for failure to conduct the identified response steps. Failure to take specific response steps should not be interpreted in any way as evidence of non-compliance with an underlying applicable requirement, which is implied by this draft permit condition. We request that all references to a Compliance Response Plan be eliminated from these conditions. If it is not possible to remove references to a Compliance Response Plan, we wish to request that the condition be worded such that failure to take specific response steps would not be interpreted in any way as evidence of non-compliance with an underlying applicable requirement.

Response 17:

OAM does not agree. IDEM has worked with members of the Clean Air Act Advisory Council's Permit Committee, Indiana Manufacturing Association, Indiana Chamber of Commerce and indivi-

dual applicants regarding the Preventive Maintenance Plan, the Compliance Monitoring Plan and the Compliance Response Plan. The plans are fully supported by rules promulgated by the Air Pollution Control Board. The plans are the mechanism each permittee will use to verify continuous compliance with its permit and the applicable rules and will form the basis for each permittee's Annual Compliance Certification. Each permittee's ability to verify continuous compliance with its air pollution control requirements is a central goal of the Title V and FESOP permit programs.

The regulatory authority for and the essential elements of a compliance monitoring plan were clarified in IDEM's Compliance Monitoring Guidance, in May 1996. IDEM originally placed all the preventive maintenance requirements in the permit section titled "Preventive Maintenance Plan." Under that section the permittee's Preventive Maintenance Plan (PMP) had to set out requirements for the inspection and maintenance of equipment both on a routine basis and in response to monitoring. Routine maintenance was a set schedule of inspections and maintenance of the equipment. The second was inspection and maintenance in response to monitoring that showed that the equipment was not operating in its normal range. This monitoring would indicate that maintenance was required to prevent the exceedance of an emission limit or other permit requirement.

The maintenance plan was to set out the "corrective actions" that the permittee would take in the event an inspection indicated an "out of specification situation", and also set out the time frame for taking the corrective action. In addition, the PMP had to include a schedule for devising additional corrective actions for out of compliance situations that the source had not predicted in the PMP. All these plans, actions and schedules were part of the Preventive Maintenance Plan, with the purpose of maintaining the permittee's equipment so that an exceedance of an emission limit or violation of other permit requirements could be prevented.

After issuing the first draft Title V permits on public notice in July of 1997, IDEM received comments from members of the regulated community regarding many of the draft permit terms, including the PMP requirements. One suggestion was that the corrective action and related schedule requirements be removed from the PMP requirement and placed into some other requirement in the permit. This suggestion was based, in some part, on the desire that a permittee's maintenance staff handle the routine maintenance of the equipment, and a permittee's environmental compliance and engineering staff handle the compliance monitoring and steps taken in reaction to an indication that the facility required maintenance to prevent an environmental problem.

IDEM carefully considered this suggestion and agreed to separate the "corrective actions" and related schedule requirements from the PMP. These requirements were placed into a separate requirement, which IDEM named the Compliance Response Plan (CRP). In response to another comment, IDEM changed the name of the "corrective actions" to "response steps." That is how the present CRP requirements became separated from the PMP requirement, and acquired their distinctive nomenclature.

The Compliance Monitoring Plan is made up of the PMP, the CRP, the compliance monitoring and compliance determination requirements in section D of the permit, and the record keeping and reporting requirements in sections C and D. IDEM decided to list all these requirements under this new name, the Compliance Monitoring Plan (CMP), to distinguish them from the PMP requirements. The section D provisions set out which facilities must comply with the CMP requirement. The authority for the CMP provisions is found at 326 IAC 2-7-5(1), 2-7-5(3), 2-7-5(13). 2-7-6(1), 1-6-3 and 1-6-5.

No change to the condition was made as a result of this comment

Comment 18:

Regarding C.19 (c) (4), General Record Keeping Requirements, we believe that the requirement for demonstration that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit is an unnecessary, open-ended and vague requirement. Specifically, the text, "To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operators standard operating procedures.", is especially troublesome. Much of the day to day maintenance that is required to ensure that all systems remain operational is performed immediately as "on-the-spot" repairs, without issuance of items such as work orders. This historic methodology has proved to be efficient for Mulzer and more than adequate to ensure that all systems remain in proper operating condition. We request that condition C.19 be removed from the draft permit.

Response 18:

IDEM has agreed to modify the first sentence of C.19 (c)(4) to be consistent with the changes to Condition B.12, Preventive Maintenance Plan.

IDEM acknowledges that the language contained in subsection (c)(4) arose from negotiations on a source specific nature. The language describes the records that would be potentially useful for the source to use under Section B.13, Emergency Provisions. If a Permittee cannot demonstrate that an event qualifies as an emergency, then the affirmative defense cannot be claimed.

C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(c) Support information shall include, where applicable:

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. ~~To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.~~

Comment 19:

Regarding D.2.1 (b), Particulate Matter, please make the following italicized revision to make allowance for the 15% opacity limit applied to crushers under 40 CFR 60 Subpart OOO.

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed 10% opacity *for conveyors and screens and 15% opacity for crushers*.

Response 19:

Thank you for bringing this to IDEM's attention. Condition D.2.1(b) has been revised to address the opacity limit for crushing operations:

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

(b) Nonfugitive emissions will be considered in compliance with 326 IAC 6-3-2 in the absence of particulate matter compliance tests provided that visible emissions do not exceed **ten percent (**10%**)** opacity **for conveyors and fifteen percent (15%) opacity for crushers**.

Comment 20:

Regarding D.1.5 and D.2.5, Testing Requirements, please remove these sections from the draft permit. Certified opacity performance testing has been performed for all of the applicable emission units in section D.2 in the last two years. Testing protocols were submitted to IDEM at least 35 days prior to each test, as required at 326 IAC 3-6. In addition, we do not believe that it is necessary to retest these types of emission units every five years due to the simple nature of the emissions generation (rock dust from agitation) and emissions control (water spray, if necessary).

Response 20:

Condition D.2.5 has been revised to require that testing be performed within five (5) years of the last valid compliance demonstration which will be consistent with the requirement of Condition D.1.5 as follows: The deletion of conveyors, known as 1A-TP-4, 1A-TP-5 and 1A-TP-6 in the equipment list (items (x), (y) and (z)) has also been incorporated.

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11] [NSPS Subpart OOO]

~~During the period between 30 and 36 months after issuance of this permit~~, **Within five (5) years from the date of the latest valid compliance demonstration,** the Permittee shall perform opacity testing for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2~~,~~ **and** 1A-TP-3~~, 1A-TP-4, 1A-TP-5 and 1A-TP-6~~) operations. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Comment 21:

Regarding D.1.6 (a), D.2.6 (a) and D.3.4 (a), Visible Emission Notations, with the exception of the primary screens 1-S-1 in Section D.1, 1A-S-1 in Section D.2, and 2-S-1 in Section D.3, please remove all requirements for visible emissions notations. IDEM's guidance and recent decisions for Title V permit appeal cases states that compliance monitoring will not be required for emission units with allowable particulate emissions below 10 lbs./hr. Uncontrolled emissions from the crushers and conveyors in Sections D.1, D.2 and D.3, and the two final screens 1A-S-2 in Section D.2, using emission factors from AP-42 section 11.19.2 for Crushed Stone Processing, are all below 10 lbs./hr. Uncontrolled emissions from the following screens:

1-S-2, 1-S-3A through 1-S-3F, and 1-S-4 in Section D.1; and
2-S-2, 2-S-3, and 2-S-4 in Section D.3

are also below 10 lbs./hr if a 70% control efficiency for enclosures is accounted for. The roofed, three-sided enclosures inside which these screens are located are permanent structures. They are therefore integral to the process and should be included when determining potential to emit or allowable emissions.

Removal of compliance monitoring requirements for emission units with allowable emissions below 10 lbs./hr follows recent decisions reached for Title V permit appeal cases. We wish to request that, if necessary, IDEM legal council be contacted for confirmation.

Response 21:

IDEM's compliance monitoring guidance states that a compliance monitoring plan is required for:

(a) the unit emits particulate matter, sulfur dioxide, or volatile organic compounds; and

(b) the unit has existing applicable requirements; and

(c) the unit is subject to a NSPS or NESHAP (for these units current requirements will satisfy as a compliance monitoring plan); or

(d) the unit has a control device and the allowable emissions exceed 10 pounds per hour; or

(e) the unit does not have a control device and has actual emissions exceeding 25 tons per year.

Since NSPS Subpart OOO is applicable to these facilities, regardless of their allowable PM emissions, compliance monitoring is required and thus no change to the permit conditions has been made.

However, due to the deletion of conveyors, known as 1A-TP-4, 1A-TP-5 and 1A-TP-6 in the equipment list (items (x), (y) and (z)), Condition D.2.6(a) has been revised as follows:

D.2.6 Visible Emissions Notations

(a) Visible emission notations of the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2~~,~~ **and** 1A-TP-3~~, 1A-TP-4, 1A-TP-5 and 1A-TP-6~~) operations shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

Comment 22:

Regarding D.2.6 (a), Visible Emission Notations, specifically the primary screens 1-S-1 in Section D.1, 1A-S-1 in Section D.2, and 2-S-1 in Section D.3, please revise the visible emissions notation frequency from daily to weekly. We do not believe that daily visible emissions notations are necessary due to the simple nature of the emissions generation (rock dust form agitation) and emissions control (water spray, if necessary). In addition, we do not believe that there is any benefit that is gained from daily notations over weekly notations, given the simple nature of our operation and the constant attention of our operations staff.

Response 22:

The NSPS Subpart OOO requires that the opacity limits be continuously met and therefore, daily visible emission notations are reasonable.

Comment 23:

Regarding D.2.7 (b), Record Keeping Requirements, please revise the text to reflect weekly visible emissions notations for screens 1-S-1 in Section D.1, 1A-S-1 and 1A-S-2 in Section D.2, and 2-S-2 in Section D.3, only.

Response 23:

No change in Condition D.2.7(b) is required since Condition D.2.6(a) was not revised as stated in

Response 22.

However, due to the deletion of conveyors, known as 1A-TP-4, 1A-TP-5 and 1A-TP-6 in the equipment list (items (x), (y) and (z)), Condition D.2.7(b) has been revised as follows:

D.2.7 Record Keeping Requirements

(b) To document compliance with Condition D.2.6, the Permittee shall maintain records of daily visible emission notations for the crushing (1A-C-3), screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2~~,~~ **and** 1A-TP-3~~, 1A-TP-4, 1A-TP-5 and 1A-TP-6~~) operations.

Upon further review, the OAM has decided to make the following changes to the Part 70 Operating Permit:

1. The Part 70 permit from page 27 onward has been repaginated and the page numbers in the Table of Contents have been accordingly changed.

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

r1.wk4

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1

* * emissions before controls * *
(TSP)

Storage			** see page 2 **					0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting			** see page 3 **					586.53	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.50	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	26.49	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	750	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	16.56	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	740	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	16.34	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,250	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	172.46	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,500	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.32	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								846.19	tons/yr	

Note tertiary crushing = 500 tph & quaternary crushing = 120 tph for a total of 620 tph.
Quat crushing change is due to an additional 120 TPH crusher (1-C-4), conveying change is due to an increase in max from 500 to 1500 TPH & truck unloading change from 1250 to 1200 TPH

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	586.53	tons/yr x	50%	emitted after controls =	293.27	tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	16.56	tons/yr x	10%	emitted after controls =	1.66	tons/yr
Crushing (tertiary & quat	16.34	tons/yr x	10%	emitted after controls =	1.63	tons/yr
Screening	172.46	tons/yr x	10%	emitted after controls =	17.25	tons/yr
Conveying	19.32	tons/yr x	10%	emitted after controls =	1.93	tons/yr
Total emissions after controls:					326.88	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	586.53	tons/yr x	50%	emitted after controls =	293.27	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					301.76	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	16.56	tons/yr x	10%	emitted after controls =	1.66	tons/yr
Crushing (tertiary & quat	16.34	tons/yr x	10%	emitted after controls =	1.63	tons/yr
Screening	172.46	tons/yr x	10%	emitted after controls =	17.25	tons/yr
Conveying:	19.32	tons/yr x	10%	emitted after controls =	1.93	tons/yr
Total nonfugitive emissions:					25.12	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002

REVISED 9/1/99
TSD ADDENDUM

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

25	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	109500 miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 22.11 lb/mile

where k =	10.0	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

22.11 lb/mi x 109500 mi/yr = 1210.49 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2 Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 10.71 lb/mile

where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 109500 mi/yr = 586.53 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

rm1.wk4

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1

* * emissions before controls * *

(PM-10)

Storage	** see page 2 **						0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **						206.94	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.50	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	12.61	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	750	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	7.88	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	740	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	7.78	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,250	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	82.13	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,500	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	9.20	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:							335.04	tons/yr	

Note tertiary crushing = 500 tph & quaternary crushing = 120 tph for a total of 620 tph.

Quat crushing change is due to an additional 120 TPH crusher (1-C-4), conveying change is due to an increase in max from 500 to 1500 TPH & truck unloading change from 1250 to 1200 TPH

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00 tons/yr
Transporting	206.94	tons/yr x	50%	emitted after controls =	103.47 tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50 tons/yr
Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26 tons/yr
Crushing (secondary)	7.88	tons/yr x	10%	emitted after controls =	0.79 tons/yr
Crushing (tertiary & quat	7.78	tons/yr x	10%	emitted after controls =	0.78 tons/yr
Screening	82.13	tons/yr x	10%	emitted after controls =	8.21 tons/yr
Conveying	9.20	tons/yr x	10%	emitted after controls =	0.92 tons/yr
Total emissions after controls:					123.93 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	206.94	tons/yr x	50%	emitted after controls =	103.47	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					111.97	tons/yr
Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	7.88	tons/yr x	10%	emitted after controls =	0.79	tons/yr
Crushing (tertiary & quat	7.78	tons/yr x	10%	emitted after controls =	0.78	tons/yr
Screening	82.13	tons/yr x	10%	emitted after controls =	8.21	tons/yr
Conveying:	9.20	tons/yr x	10%	emitted after controls =	0.92	tons/yr
Total nonfugitive emissions:					11.96	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

25	trip/hr x		
0.25	mile/trip x		
2	(round trip) x		
8760	hr/yr =	109500	miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 109500 mi/yr = 231.93 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2:

Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 109500 mi/yr = 206.94 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

r1a.wk4

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1A

* * emissions before controls * *

(TSP)

Storage			** see page 2 **					0.74	tons/yr
Transporting			** see page 3 **					375.38	tons/yr
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.50	tons/yr
Crushing (primary)	800	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	17.66	tons/yr
Crushing (secondary)	500	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.04	tons/yr
Crushing (tertiary)	400	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.83	tons/yr
Screening	800	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	110.38	tons/yr
Conveyor Transfer	1,000	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	12.88	tons/yr
Total emissions before controls:								545.40	tons/yr

AP-42 Ch.11.2.3 (Fourth edition, no update)
AP-42 Ch.13.2.2 (Supplement E, 9/98)
AP-42 Ch.13.2.4 (Fifth edition, 1/95)
AP-42 Ch.11.19.2 (Fifth edition, 1/95)
AP-42 Ch.11.19.2 (Fifth edition, 1/95)
AP-42 Ch.11.19.2 (Fifth edition, 1/95)
AP-42 Ch.11.19.2 (Fifth edition, 1/95)
AP-42 Ch.11.19.2 (Fifth edition, 1/95)

Conveying change is due to an increase in max from 400 to 1000 TPH and truck unloading change from 800 to 1200 TPH

* * emissions after controls * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07 tons/yr
Transporting	375.38	tons/yr x	50%	emitted after controls =	187.69 tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50 tons/yr
Crushing (primary)	17.66	tons/yr x	10%	emitted after controls =	1.77 tons/yr
Crushing (secondary)	11.04	tons/yr x	10%	emitted after controls =	1.10 tons/yr
Crushing (tertiary)	8.83	tons/yr x	10%	emitted after controls =	0.88 tons/yr
Screening	110.38	tons/yr x	10%	emitted after controls =	11.04 tons/yr
Conveying	12.88	tons/yr x	10%	emitted after controls =	1.29 tons/yr
Total emissions after controls:					212.34 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	375.38	tons/yr x	50%	emitted after controls =	187.69	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					196.26	tons/yr
Crushing (primary)	17.66	tons/yr x	10%	emitted after controls =	1.77	tons/yr
Crushing (secondary)	11.04	tons/yr x	10%	emitted after controls =	1.10	tons/yr
Crushing (tertiary)	8.83	tons/yr x	10%	emitted after controls =	0.88	tons/yr
Screening	110.38	tons/yr x	10%	emitted after controls =	11.04	tons/yr
Conveying:	12.88	tons/yr x	10%	emitted after controls =	1.29	tons/yr
Total nonfugitive emissions:					16.08	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.745	tons/yr
where sc =	60	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002
REVISED 9/1/99
TSD ADDENDUM

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

16	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	70080 miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 22.11 lb/mile

where k =	10.0	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

22.11 lb/mi x 70080 mi/yr = 774.71 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2 Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 10.71 lb/mile

where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 70080 mi/yr = 375.38 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

rm1a.wk4

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1A

* * emissions before controls * *

(PM-10)

Storage			** see page 2 **				0.74	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting			** see page 3 **				132.44	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.50	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	800	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.41	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	500	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	5.26	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary)	400	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	4.20	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	800	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	52.56	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,000	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	6.13	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:							218.25	tons/yr	

Conveying change is due to an increase in max from 400 to 1000 TPH and truck unloading change from 800 to 1200 TPH

* * emissions after controls * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	132.44	tons/yr x	50%	emitted after controls =	66.22	tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Crushing (primary)	8.41	tons/yr x	10%	emitted after controls =	0.84	tons/yr
Crushing (secondary)	5.26	tons/yr x	10%	emitted after controls =	0.53	tons/yr
Crushing (tertiary)	4.20	tons/yr x	10%	emitted after controls =	0.42	tons/yr
Screening	52.56	tons/yr x	10%	emitted after controls =	5.26	tons/yr
Conveying	6.13	tons/yr x	10%	emitted after controls =	0.61	tons/yr
Total emissions after controls:					82.45	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	132.44	tons/yr x	50%	emitted after controls =	66.22	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					74.79	tons/yr

Crushing (primary)	8.41	tons/yr x	10%	emitted after controls =	0.84	tons/yr
Crushing (secondary)	5.26	tons/yr x	10%	emitted after controls =	0.53	tons/yr
Crushing (tertiary)	4.20	tons/yr x	10%	emitted after controls =	0.42	tons/yr
Screening	52.56	tons/yr x	10%	emitted after controls =	5.26	tons/yr
Conveying:	6.13	tons/yr x	10%	emitted after controls =	0.61	tons/yr
Total nonfugitive emissions:					7.66	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.745	tons/yr
where sc =	60	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002
REVISED 9/1/99
TSD ADDENDUM

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

16 trip/hr x
0.25 mile/trip x
2 (round trip) x
8760 hr/yr = 70080 miles per year

Method 1: Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 70080 mi/yr = 148.43 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2: Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 70080 mi/yr = 132.44 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Stationary
Plant 2

* * emissions before controls * *
(TSP)

Storage			** see page 2 **					0.00	tons/yr
Transporting			** see page 3 **					1074.91	tons/yr
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.50	tons/yr
Crushing (primary)	1,200	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	26.49	tons/yr
Crushing (secondary)	900	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.87	tons/yr
Crushing (tertiary & quat	1,490	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	32.89	tons/yr
Screening	1,245	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	171.77	tons/yr
Conveyor Transfer	1,500	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.32	tons/yr
Total emissions before controls:								1353.74	tons/yr

Storage	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	AP-42 Ch.11.19.2 (Fifth edition, 1/95)

Note: Tertiary crushing = 250 tph and quaternary crushing = 370 tph for a total of 620 tph
Conveying change is due to the increase in maximum capacity from 370 to 1,500 TPH at Plant 2
Tert. and Quat crushing change is due to the increases in capacity of 2-C-3 from 250 to 750 TPH & an additional 370 TPH for 2-C-4

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	1074.91	tons/yr x	50%	emitted after controls =	537.45	tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	19.87	tons/yr x	10%	emitted after controls =	1.99	tons/yr
Crushing (tertiary & quat	32.89	tons/yr x	10%	emitted after controls =	3.29	tons/yr
Screening	171.77	tons/yr x	10%	emitted after controls =	17.18	tons/yr
Conveying	19.32	tons/yr x	10%	emitted after controls =	1.93	tons/yr
Total emissions after controls:					572.98	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	1074.91	tons/yr x	50%	emitted after controls =	537.45	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					545.95	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	19.87	tons/yr x	10%	emitted after controls =	1.99	tons/yr
Crushing (tertiary & quat	32.89	tons/yr x	10%	emitted after controls =	3.29	tons/yr
Screening	171.77	tons/yr x	10%	emitted after controls =	17.18	tons/yr
Conveying:	19.32	tons/yr x	10%	emitted after controls =	1.93	tons/yr
Total nonfugitive emissions:					27.03	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002
REVISED 9/1/99
TSD ADDENDUM

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

24.9	trip/hr x	
0.46	mile/trip x	
2	(round trip) x	
8760	hr/yr =	200674 miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 22.11 lb/mile

where k =	10.0	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

22.11 lb/mi x 200674 mi/yr = 2218.39 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2 Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 10.71 lb/mile

where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 200674.08 mi/yr = 1074.91 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

rm2.wk4

Stationary
Plant 2

* * emissions before controls * *
(PM-10)

Storage	** see page 2 **						0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **						379.25	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.50	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	12.61	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	900	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	9.46	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	1,490	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	15.66	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,245	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	81.80	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,500	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	9.20	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:							516.48	tons/yr	

Note: Tertiary crushing = 250 tph and quaternary crushing = 370 tph for a total of 620 tph
Conveying change is due to the increase in maximum capacity from 370 to 1,500 TPH at Plant 2
Tert. and Quat crushing change is due to the increases in capacity of 2-C-3 from 250 to 750 TPH & an additional 370 TPH for 2-C-4

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00 tons/yr
Transporting	379.25	tons/yr x	50%	emitted after controls =	189.63 tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50 tons/yr
Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26 tons/yr
Crushing (secondary)	9.46	tons/yr x	10%	emitted after controls =	0.95 tons/yr
Crushing (tertiary & quat	15.66	tons/yr x	10%	emitted after controls =	1.57 tons/yr
Screening	81.80	tons/yr x	10%	emitted after controls =	8.18 tons/yr
Conveying	9.20	tons/yr x	10%	emitted after controls =	0.92 tons/yr
Total emissions after controls:					211.00 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	379.25	tons/yr x	50%	emitted after controls =	189.63	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					198.12	tons/yr

Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	9.46	tons/yr x	10%	emitted after controls =	0.95	tons/yr
Crushing (tertiary & quat	15.66	tons/yr x	10%	emitted after controls =	1.57	tons/yr
Screening	81.80	tons/yr x	10%	emitted after controls =	8.18	tons/yr
Conveying:	9.20	tons/yr x	10%	emitted after controls =	0.92	tons/yr
Total nonfugitive emissions:					12.87	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002
REVISED 9/1/99
TSD ADDENDUM

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

24.9	trip/hr x
0.46	mile/trip x
2	(round trip) x
8760	hr/yr = 200674 miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 200674 mi/yr = 425.04 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2:

Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 200674.08 mi/yr = 379.25 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

rinc.wk4

All Plants **NONFUGITIVE EMISSIONS ONLY - PSD DEFINITION**
Unpermitted Capacity Increases * * emissions before controls * *
Plus Unpermitted Emission Units (TSP)

Crushing (primary)	1,900	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	41.94	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	1,250	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	27.59	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	1,490	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	32.89	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	2,495	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	344.24	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,500	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.32	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								465.98	tons/yr	

Conveying change is due to the increase in maximum capacity from 370 to 1,500 TPH at Plant 2
Tert. and Quat crushing change is due to the increases in capacity of 2-C-3 from 250 to 750 TPH & an additional 370 TPH for 2-C-4

* * emissions after controls * *

Crushing (primary)	41.94	tons/yr x	10%	emitted after controls =	4.19	tons/yr
Crushing (secondary)	27.59	tons/yr x	10%	emitted after controls =	2.76	tons/yr
Crushing (tertiary & quat	32.89	tons/yr x	10%	emitted after controls =	3.29	tons/yr
Screening	344.24	tons/yr x	10%	emitted after controls =	34.42	tons/yr
Conveying	19.32	tons/yr x	10%	emitted after controls =	1.93	tons/yr
Total emissions after controls:					46.60	tons/yr

Appendix A: Emission Calculations
Stone Processing

REVISED 9/1/99
TSD ADDENDUM

rmin.wk4

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

All Plants
Unpermitted Capacity Increases
Plus Unpermitted Emission Units

NONFUGITIVE EMISSIONS ONLY - PSD DEFINITION
* * emissions before controls * *
(PM-10)

Crushing (primary)	1,900	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.97	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Crushing (secondary)	1,250	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.14	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Crushing (tertiary & quat	1,490	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	15.66	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Screening	2,495	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	163.92	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	1,500	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	9.20	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								221.90	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)

Conveying change is due to the increase in maximum capacity from 370 to 1500 TPH at Plant 2
Tert. and Quat crushing change is due to the increase in capacity of 2-C-3 from 250 to 750 TPH & an additional 370 TPH for 2-C-4

* * emissions after controls * *

Crushing (primary)	19.97	tons/yr x	10%	emitted after controls =	2.00 tons/yr
Crushing (secondary)	13.14	tons/yr x	10%	emitted after controls =	1.31 tons/yr
Crushing (tertiary & quat	15.66	tons/yr x	10%	emitted after controls =	1.57 tons/yr
Screening	163.92	tons/yr x	10%	emitted after controls =	16.39 tons/yr
Conveying	9.20	tons/yr x	10%	emitted after controls =	0.92 tons/yr
Total emissions after controls:					22.19 tons/yr

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Operating Permit and Enhanced New Source Review (ENSR)

Source Background and Description

Source Name:	**Mulzer Crushed Stone, Inc. (Cape Sandy Facility)**
Source Location:	**RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137**
County:	**Crawford**
SIC Code:	**1422**
Operation Permit No.:	**T 025-7484-00002**
Permit Reviewer:	**Mark L. Kramer**

The Office of Air Management (OAM) has reviewed a Part 70 permit application from Mulzer Crushed Stone, Inc. relating to the operation of a stationary limestone crushing and processing source.

Source Definition

This limestone crushing and processing company consists of five (5) plants:

(a) Stationary Plant 1 is located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137;

(b) Stationary Plant 1A is located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137;

(c) Stationary Plant 2 is located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137; and

(d) Portable Plant 2 is located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137.

(e) Stationary Sand Plant is located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137.

Since these five (5) plants are located on contiguous properties, have the same SIC codes and are owned by one (1) company, they will be considered one (1) source.

A separate Part 70 permit (T 025-10885-05199) will be issued to Portable Plant 2 solely for administrative purposes.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices. Certain emission units have had their capacities increased without prior approval. The permitted capacities for those units are shown in parentheses pursuant to a permit.

Stationary Plant 1

(a) One (1) primary crusher, known as EU 1-C-1, installed in 1986, capacity: 1,200 tons of limestone per hour. (capacity: 500 tons of limestone per hour pursuant to OP 13-11-90-0032, issued May 27, 1987)

(b) One (1) secondary crusher, known as EU 1-C-2, installed in 1986, capacity: 750 tons of limestone per hour. (capacity: 400 tons of limestone per hour pursuant to OP 13-11-90-0032, issued May 27, 1987)

(c) Two (2) tertiary crushers (A & B), known as EU 1-C-3, installed in 1962 and 1988, capacity: 500 tons of limestone per hour total. (capacity: 400 tons of limestone per hour for one (1) tertiary crusher pursuant to OP 13-11-90-0033, issued May 27, 1987 and assumed 100 tons of limestone per hour for the 1962 crusher)

(d) One (1) quaternary crusher, known as 1-C-4, installed in 1962, replaced with identical equipment in 1987, capacity: 120 tons of limestone per hour.

(e) One (1) conveyor, known as 1-TP-1, installed in 1986, capacity: 500 tons of limestone per hour. (capacity: 500 tons of limestone per hour pursuant to OP 13-11-90-0034, issued May 27, 1987)

(f) One (1) conveyor, known as 1-TP-2, installed in 1986, capacity: 500 tons of limestone per hour. (capacity: 500 tons of limestone per hour pursuant to OP 13-11-90-0034, issued May 27, 1987)

(g) One (1) conveyor, known as 1-TP-3, installed in 1986, capacity: 120 tons of limestone per hour. (capacity: 500 tons of limestone per hour pursuant to OP 13-11-90-0034, issued May 27, 1987)

(h) Two (2) conveyors, known as T-TP-4, installed in 1996, capacity: 100 tons of limestone per hour, each. (capacity: 100 tons of limestone per hour, each pursuant to CP 025-6585-00002 issued October 11, 1996)

(i) One (1) truck loading and unloading operation, known as 1-TU-1, installed in 1988, capacity: 1,250 tons of limestone per hour. (capacity: 500 tons of limestone per hour pursuant to OP 13-11-90-0032, issued May 27, 1987)

(j) One (1) bin, installed in 1996, capacity 150 tons of limestone. (capacity: 150 tons of limestone pursuant to CP 025-6585-00002, issued October 11, 1996)

Stationary Plant 1A

(k) One (1) primary crusher, known as EU 1A-C-1, installed in 1962, capacity: 800 tons of limestone per hour.

(l) One (1) secondary crusher, known as EU 1A-C-2, installed in 1966, capacity: 500 tons of limestone per hour.

(m) One (1) tertiary crusher, known as 1A-C-3, installed in 1992, capacity: 400 tons of limestone per hour. (capacity: two (2) at 300 tons of limestone per hour each pursuant to CP 025-1952-00002, issued April 15, 1991)

(n) One (1) primary screen, known as 1A-S-1, installed in 1992, capacity: 800 tons of limestone per hour. (five (5) new screening operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(o) One (1) final screen, known as 1A-S-2, installed in 1992, capacity: 500 tons of limestone per hour. (five (5) new screening operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(p) One (1) conveyor, known as 1A-TP-1, installed in 1992, capacity: 400 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(q) One (1) conveyor, known as 1A-TP-2, installed in 1992, capacity: 400 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(r) One (1) conveyor, known as 1A-TP-3, installed in 1992, capacity: 400 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(s) One (1) conveyor, known as 1A-TP-4, installed in 1992, capacity: 100 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(t) One (1) conveyor, known as 1A-TP-5, installed in 1992, capacity: 650 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(u) One (1) conveyor, known as 1A-TP-6, installed in 1992, capacity: 650 tons of limestone per hour. (conveying operations pursuant to CP 025-1952-00002, issued April 15, 1991)

(v) One bin, installed in 1996, capacity: 150 tons of limestone. (capacity: 150 tons of limestone pursuant to CP 025-6585-00002, issued October 11, 1996)

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

Stationary Plant 1

(w) One (1) primary screen, known as EU 1-S-1, installed in 1986, capacity: 1,200 tons of limestone per hour.

(x) One (1) secondary screen, known as EU 1-S-2, installed in 1988, capacity: 1,250 tons of limestone tons per hour.

(y) Six (6) tertiary screens (A - F), known as EU 1-S-3A, installed in 1986, capacity: 820 tons of limestone per hour, each.

(z) One (1) final screen, known as EU 1-S-F, installed in 1986, capacity: 770 tons of limestone per hour.

(aa) One (1) rock wash operation, known as 1-RW-1, installed in 1988 , capacity: 1,250 tons of limestone per hour.

Stationary Plant 2

(bb) One (1) primary crusher, known as 2-C-1, installed in 1980, replaced with identical equipment in 1994, capacity: 1,200 tons of limestone per hour.

(cc) One (1) secondary crusher, known as 2-C-2, installed in 1980, capacity: 900 tons of limestone per hour.

(dd) One (1) tertiary crusher, known as 2-C-3, installed in 1980, capacity: 250 tons of limestone per hour.

(ee) One (1) quaternary crusher, known as 2-C-4, installed in 1980, capacity: 370 tons of limestone per hour.

(ff) One (1) conveyor, known as 2-TP-1, installed in 1980, capacity: 250 tons of limestone per hour.

(gg) One (1) conveyor, known as 2-TP-2, installed in 1980, capacity: 370 tons of limestone per hour.

(hh) One (1) conveyor, known as 2-TP-3, installed in 1980, capacity: 250 tons of limestone per hour.

(ii) One (1) primary screen, known as EU 2-S-1, installed in 1980, capacity: 1,050 tons of limestone per hour.

(jj) One (1) secondary screen, known as EU 2-S-2, installed in 1980, capacity: 1,150 tons of limestone per hour.

(kk) One (1) tertiary screen, known as EU 2-S-3, installed in 1980, capacity: 1,245 tons of limestone per hour.

(ll) Five (5) quaternary screens (A - E), known as EU 2-S-4, installed in 1980, capacity: 1,195 tons of limestone per hour total.

(mm) Two (2) truck loading operations, known as 2-TL-1 and 2-TL-2, installed in 1980, capacity: 1,200 tons of limestone per hour.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new facilities receiving prior approval.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.

(b) Equipment used exclusively for the following: Packaging lubricants and greases.

(c) Paved and unpaved roads and parking lots with public access.

(d) Emergency generators as follows: Gasoline generators not exceeding 110 horsepower.

(e) A laboratory as defined in 326 IAC 2-7-1(21)(D).

(f) Other activities or categories not previously identified: Maintenance Shop: Used oil heaters

(g) One (1) wet lime aggregate sand classifying plant, known as Sand Plant (SP), and storage pile installed in 1993, capacity: 300 tons of limestone per hour. (326 IAC 6-3)

Note: The sand plant process begins with trucks dumping the limestone fines (typically already wet) into a bin. The fines travel by conveyor from the bin to a wet screen. There is a continuous water spray to prevent the fines from simply clumping up and covering the top of the screen (integral - cannot be operated without the spray or the screen becomes covered and plugs up). From the screen, the fines travel to a clarifier where the particles are further sorted by size. The clarifier is a tank or trough with flowing water. The particles are separated by the rate that they settle out of the water flow (like the troughs that gold prospectors use). From the clarifier, the fines are moved by screws to radial stackers (inclined conveyors) to pile up the sized fines. Each size of limestone fine will have its own storage pile.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) OP 13-11-90-0032, issued May 27, 1987;

(b) OP 13-11-90-0033, issued May 27, 1987;

(c) OP 13-11-90-0034, issued May 27, 1987;

(d) CP 025-1952-00002, issued April 15, 1991;

(e) CP 025 -2329-00002, issued March 13, 1992; and

(e) CP 025-6585-00002, issued October 11, 1996.

Another portable limestone crushing plant (Portable Plant #1), initially located at RR1, Box 222, Alton County Road, Leavenworth, Indiana 47137, approved under CP 025 - 8125-05073 issued on May 1, 1997 corrected to CP 025-8125-05185 by Amendment A061-10157 issued October 7, 1998 has been relocated to New Amsterdam in Harrison County on March 1, 1999. Its portable source relocation letter Site Approval INDOT No. 05185, Permit #L-061-10077-05185 was issued on October 7, 1998. The concrete batch plant mentioned in CP 025-8125-05073 is and has always been located at the Tower Quarry which is also in Leavenworth.

All conditions from previous approvals were incorporated into this Part 70 permit.

Enforcement Issue

(a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled Unpermitted Emission Units and Pollution Control Equipment.

(b) Some of the previously permitted emission units have increased their capacities above those listed in the permits without obtaining a modification for such changes.

(c) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on December 11, 1996. Additional information was received on August 20, 1998 and March 1 and 11, 1999.

A notice of completeness letter was mailed to the source on January 15, 1997.

Emission Calculations

See pages 1 - 18 of Appendix A of this document for detailed emissions calculations. Pages 19 and 20 of 20 of Appendix A present the total potential emissions from the unpermitted emission units and the unpermitted capacity increases.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

	Potential To Emit (tons/year)			
Pollutant	**Plant 1**	**Plant 1A**	**Stationary Plant 2**	**Total Source**
PM	831	535	1,315	2,681
PM_{10}	328	212	500	1,040
SO_2	0.00	0.00	0.00	0.00
VOC	0.00	0.00	0.00	0.00
CO	0.00	0.00	0.00	0.00
NO_X	0.00	0.00	0.00	0.00

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAPS	Potential To Emit (tons/year)
TOTAL	None

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM_{10} is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards (NSPS) that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability. Note NSPS Subpart OOO which applies to certain emission units was not effective until August 31, 1983.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1997 OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	347
PM_{10}	147
SO_2	0.00
VOC	0.00
CO	0.00
NO_X	0.00
HAP	0.00

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Plant 1	23.6	11.2	0.00	0.00	0.00	0.00	0.00
Plant 1A	15.3	7.29	0.00	0.00	0.00	0.00	0.00
Stationary Plant 2	23.2	11.3	0.00	0.00	0.00	0.00	0.00
Insignificant Activities	2.50	2.50	0.00	0.750	0.00	0.00	0.750
Total Emissions	64.6	32.3	0.00	0.750	0.00	0.00	0.750

County Attainment Status

The source is located in Crawford County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Crawford County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) Certain limestone facilities constructed after August 31, 1983 at the processing plants are subject to the New Source Performance Standard 326 IAC 12, 40 CFR Parts 60.670 through 60.676, Subpart OOO. This rule requires the particulate emissions from:

Plant 1

(1) The crushing operations (1-C-1, 1-C-2 and 1-C-3B) are limited to fifteen percent (15%) opacity or less, and

(2) The screening (1-S-1, 1-S-2, 1-S-3A and 1-S-F) and conveying (1-TP-1, 1-TP-2, 1-TP-3 and 1-TP-4) operations are limited to ten percent (10%) opacity or less.

Plant 1A

(3) The crushing operation (1A-C-3) is limited to fifteen percent (15%) opacity or less, and

(4) The screening (1A-S-1 and 1A-S-2) and conveying (1A-TP-1, 1A-TP-2, 1A-TP-3, 1A-TP-4, 1A-TP-5 and 1A-TP-6) operations are limited to ten percent (10%) opacity or less.

Stationary Plant 2

All emission units were installed in 1980 and are before the applicability of August 31, 1983.

(b) Certain original limestone equipment was replaced by identical equipment after August 31, 1983 at the processing plants. These facilities are subject to the New Source Performance Standard 326 IAC 12, 40 CFR Parts 60.670, 60.671, 60.673 and 60.676, Subpart OOO. This rule requires the particulate emissions from:

Plant 1

(1) The crushing operation (1-C-4) is subject to the reporting and record keeping.

Stationary Plant 2

(2) The crushing operation (2-C-1) is subject to the reporting and record keeping.

(c) Since the Sand Plant, known as SP, installed in 1993 does not have a crusher, the sand plant is not subject to the requirements of the New Source Performance Standard 326 IAC 12, 40 CFR Parts 60.670 through 60.676, Subpart OOO.

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

(a) Pages 19 and 20 of Appendix A demonstrate that at the three (3) stationary plants, the potential emissions for the modifications after control of the nonfugitive emissions from the unpermitted emission units and the unpermitted increased capacity are less than the PSD threshold level of 250 tons per year.

(b) The three (3) stationary plants plus the portable plant covered under T 025-10885-05199 are classified as a minor source pursuant to 326 IAC 2-2.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of $PM_{10.}$ Pursuant to this rule, the owner/ operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the proposed permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4 for Stationary Plants 1, 1A and 2.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period for Stationary Plants 1, 1A and 2.

State Rule Applicability - Individual Facilities

326 IAC 2-7-5(13) (Preventive Maintenance Plan)

(a) All crushing, screening and conveying operations subject to NSPS Subpart OOO as previously specified above are required to have a Preventive Maintenance Plan at Stationary Plants 1 and 1A.

(b) A Preventive Maintenance Plan is not required for the Stationary Plant 2 because:

(1) It has no control devices,

(2) There are no NSPS or NESHAPs applicable, and

(3) Actual PM emissions are less than twenty-five (25) tons per year.

326 IAC 2-7-6(1),(6) (Testing Requirements) and NSPS Subpart OOO

During the period between 30 and 36 months after issuance of this permit, the Permittee shall perform opacity testing for all emission units subject to the testing provisions of NSPS Subpart OOO. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the each plant shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The allowable PM emission rates shall not exceed the following based upon the process weight rate in the table:

Operation	**Process Weight Rate** (tons per hour)	**Allowable PM Emission Rate** (pounds per hour)	**Potential PM Emission Rate After Controls** (pounds per hour)
Plant 1	1,250	80.5	5.39
Plant 1A	800	74.7	3.49
Stationary Plant 2	1,245	80.5	5.30
Insignificant Activity Sand Plant	300	63.0	Less than 5

All plants comply with the allowable PM emission rates.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

This rule requires that the source not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

Fugitive dust controls at Stationary Plants 1, 1A and 2 consist of using a water truck to water haul roads and stock piles as necessary.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The crushed stone processing facilities have applicable compliance monitoring conditions as specified below:

Daily visible emissions notations of the particulate matter emissions from Stationary Plants 1, 1A and 2 (stone crushing, screening and conveying processes) shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary to ensure compliance with 326 IAC 5-1 (Opacity), NSPS Subpart OOO and 326 IAC 2-7.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPS) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

Conclusion

The operation of this limestone crushing and processing source shall be subject to the conditions of the attached proposed Part 70 Permit No. T 025-7484-00002.

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1

* * emissions before controls * *
(TSP)

Storage			** see page 2 **					0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting			** see page 3 **					586.53	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,250	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.85	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	26.49	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	750	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	16.56	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	620	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.69	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,250	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	172.46	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	500	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.44	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								831.02	tons/yr	

Note tertiary crushing = 500 tph & quaternary crushing = 120 tph for a total of 620 tph.

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00 tons/yr
Transporting	586.53	tons/yr x	50%	emitted after controls =	293.27 tons/yr
Loading & Unloading	8.85	tons/yr x	100%	emitted after controls =	8.85 tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65 tons/yr
Crushing (secondary)	16.56	tons/yr x	10%	emitted after controls =	1.66 tons/yr
Crushing (tertiary & quat	13.69	tons/yr x	10%	emitted after controls =	1.37 tons/yr
Screening	172.46	tons/yr x	10%	emitted after controls =	17.25 tons/yr
Conveying	6.44	tons/yr x	10%	emitted after controls =	0.64 tons/yr
Total emissions after controls:					325.68 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	586.53	tons/yr x	50%	emitted after controls =	293.27	tons/yr
Loading / Unloading	8.85	tons/yr x	100%	emitted after controls =	8.85	tons/yr
Total fugitive emissions:					302.12	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	16.56	tons/yr x	10%	emitted after controls =	1.66	tons/yr
Crushing (tertiary & quat	13.69	tons/yr x	10%	emitted after controls =	1.37	tons/yr
Screening	172.46	tons/yr x	10%	emitted after controls =	17.25	tons/yr
Conveying:	6.44	tons/yr x	10%	emitted after controls =	0.64	tons/yr
Total nonfugitive emissions:					23.56	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

25	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	109500 miles per year

Method 1:

Ef =	k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]		
=	22.11	lb/mile	
where k =	10.0	(particle size multiplier for PM-10	(k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads	
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)	
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)	
W =	63.53	tons average vehicle weight	
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)	

22.11 lb/mi x 109500 mi/yr = 1210.49 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2

Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]		
=	10.71	lb/mile	
where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)	
s =	4.8	mean % silt content of unpaved roads	
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)	
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)	
W =	63.53	tons average vehicle weight	
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)	
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)	

10.71 lb/mi x 109500 mi/yr = 586.53 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef =	k*(0.0032)* (U/5)^1.3/(M/2)^1.4	
=	0.0016	lb/ton
where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1

* * emissions before controls * *

(PM-10)

Storage	** see page 2 **							0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **							206.94	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,250	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.85	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	12.61	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	750	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	620	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.52	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,250	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	82.13	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	500	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.07	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								328.00	tons/yr	

Note tertiary crushing = 500 tph & quaternary crushing = 120 tph for a total of 620 tph.

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	206.94	tons/yr x	50%	emitted after controls =	103.47	tons/yr
Loading & Unloading	8.85	tons/yr x	100%	emitted after controls =	8.85	tons/yr
Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	7.88	tons/yr x	10%	emitted after controls =	0.79	tons/yr
Crushing (tertiary & quat	6.52	tons/yr x	10%	emitted after controls =	0.65	tons/yr
Screening	82.13	tons/yr x	10%	emitted after controls =	8.21	tons/yr
Conveying	3.07	tons/yr x	10%	emitted after controls =	0.31	tons/yr
Total emissions after controls:					123.54	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	206.94	tons/yr x	50%	emitted after controls =	103.47	tons/yr
Loading / Unloading	8.85	tons/yr x	100%	emitted after controls =	8.85	tons/yr
Total fugitive emissions:					112.32	tons/yr

Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	7.88	tons/yr x	10%	emitted after controls =	0.79	tons/yr
Crushing (tertiary & quat	6.52	tons/yr x	10%	emitted after controls =	0.65	tons/yr
Screening	82.13	tons/yr x	10%	emitted after controls =	8.21	tons/yr
Conveying:	3.07	tons/yr x	10%	emitted after controls =	0.31	tons/yr
Total nonfugitive emissions:					11.22	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

25	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	109500 miles per year

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 109500 mi/yr = 231.93 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2:

Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 109500 mi/yr = 206.94 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1A

* * emissions before controls * *
(TSP)

Storage			** see page 2 **					0.74	tons/yr
Transporting			** see page 3 **					375.38	tons/yr
Loading & Unloading	800	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.66	tons/yr
Crushing (primary)	800	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	17.66	tons/yr
Crushing (secondary)	500	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.04	tons/yr
Crushing (tertiary)	400	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.83	tons/yr
Screening	800	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	110.38	tons/yr
Conveyor Transfer	400	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.15	tons/yr
Total emissions before controls:								534.85	tons/yr

Storage	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary)	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	AP-42 Ch.11.19.2 (Fifth edition, 1/95)

* * emissions after controls * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	375.38	tons/yr x	50%	emitted after controls =	187.69	tons/yr
Loading & Unloading	5.66	tons/yr x	100%	emitted after controls =	5.66	tons/yr
Crushing (primary)	17.66	tons/yr x	10%	emitted after controls =	1.77	tons/yr
Crushing (secondary)	11.04	tons/yr x	10%	emitted after controls =	1.10	tons/yr
Crushing (tertiary)	8.83	tons/yr x	10%	emitted after controls =	0.88	tons/yr
Screening	110.38	tons/yr x	10%	emitted after controls =	11.04	tons/yr
Conveying	5.15	tons/yr x	10%	emitted after controls =	0.52	tons/yr
Total emissions after controls:					208.74	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	375.38	tons/yr x	50%	emitted after controls =	187.69	tons/yr
Loading / Unloading	5.66	tons/yr x	100%	emitted after controls =	5.66	tons/yr
Total fugitive emissions:					193.43	tons/yr
Crushing (primary)	17.66	tons/yr x	10%	emitted after controls =	1.77	tons/yr
Crushing (secondary)	11.04	tons/yr x	10%	emitted after controls =	1.10	tons/yr
Crushing (tertiary)	8.83	tons/yr x	10%	emitted after controls =	0.88	tons/yr
Screening	110.38	tons/yr x	10%	emitted after controls =	11.04	tons/yr
Conveying:	5.15	tons/yr x	10%	emitted after controls =	0.52	tons/yr
Total nonfugitive emissions:					15.31	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.745	tons/yr
where sc =	60	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

16	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	70080 miles per year

Method 1:

Ef =	k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]		
=	22.11	lb/mile	
where k =	10.0	(particle size multiplier for PM-10	(k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads	
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)	
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)	
W =	63.53	tons average vehicle weight	
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)	

22.11 lb/mi x 70080 mi/yr = 774.71 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2

Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
=	10.71	lb/mile
where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 70080 mi/yr = 375.38 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef =	k*(0.0032)* (U/5)^1.3/(M/2)^1.4	
=	0.0016	lb/ton
where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Plant 1A

* * emissions before controls * *

(PM-10)

Storage	** see page 2 **						0.74	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **						132.44	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	800	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	5.66	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	800	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.41	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	500	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	5.26	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary)	400	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	4.20	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	800	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	52.56	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	400	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	2.45	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:							211.74	tons/yr	

* * emissions after controls * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	132.44	tons/yr x	50%	emitted after controls =	66.22	tons/yr
Loading & Unloading	5.66	tons/yr x	100%	emitted after controls =	5.66	tons/yr
Crushing (primary)	8.41	tons/yr x	10%	emitted after controls =	0.84	tons/yr
Crushing (secondary)	5.26	tons/yr x	10%	emitted after controls =	0.53	tons/yr
Crushing (tertiary)	4.20	tons/yr x	10%	emitted after controls =	0.42	tons/yr
Screening	52.56	tons/yr x	10%	emitted after controls =	5.26	tons/yr
Conveying	2.45	tons/yr x	10%	emitted after controls =	0.25	tons/yr
Total emissions after controls:					79.25	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.74	tons/yr x	10%	emitted after controls =	0.07	tons/yr
Transporting	132.44	tons/yr x	50%	emitted after controls =	66.22	tons/yr
Loading / Unloading	5.66	tons/yr x	100%	emitted after controls =	5.66	tons/yr
Total fugitive emissions:					71.96	tons/yr

Crushing (primary)	8.41	tons/yr x	10%	emitted after controls =	0.84	tons/yr
Crushing (secondary)	5.26	tons/yr x	10%	emitted after controls =	0.53	tons/yr
Crushing (tertiary)	4.20	tons/yr x	10%	emitted after controls =	0.42	tons/yr
Screening	52.56	tons/yr x	10%	emitted after controls =	5.26	tons/yr
Conveying:	2.45	tons/yr x	10%	emitted after controls =	0.25	tons/yr
Total nonfugitive emissions:					7.29	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.745	tons/yr
where sc =	60	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

16	trip/hr x	
0.25	mile/trip x	
2	(round trip) x	
8760	hr/yr =	70080 miles per year

Method 1: Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]

=	4.24	lb/mile
where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 70080 mi/yr = 148.43 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2: Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]

=	3.78	lb/mile
where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 70080 mi/yr = 132.44 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4

=	0.0016	lb/ton
where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Stationary
Plant 2

* * emissions before controls * *
(TSP)

Storage			** see page 2 **						0.00	tons/yr
Transporting			** see page 3 **						1074.91	tons/yr
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		8.50	tons/yr
Crushing (primary)	1,200	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		26.49	tons/yr
Crushing (secondary)	900	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		19.87	tons/yr
Crushing (tertiary & quat	620	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		13.69	tons/yr
Screening	1,245	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		171.77	tons/yr
Conveyor Transfer	0	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.00	tons/yr
Total emissions before controls:									1315.22	tons/yr

AP-42 Ch.11.2.3 (Fourth edition, no update)	
AP-42 Ch.13.2.2 (Supplement E, 9/98)	
AP-42 Ch.13.2.4 (Fifth edition, 1/95)	
AP-42 Ch.11.19.2 (Fifth edition, 1/95)	
AP-42 Ch.11.19.2 (Fifth edition, 1/95)	
AP-42 Ch.11.19.2 (Fifth edition, 1/95)	
AP-42 Ch.11.19.2 (Fifth edition, 1/95)	
AP-42 Ch.11.19.2 (Fifth edition, 1/95)	

Note: Tertiary crushing = 250 tph and quaternary crushing = 370 tph for a total of 620 tph

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00 tons/yr
Transporting	1074.91	tons/yr x	50%	emitted after controls =	537.45 tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50 tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65 tons/yr
Crushing (secondary)	19.87	tons/yr x	10%	emitted after controls =	1.99 tons/yr
Crushing (tertiary & quat	13.69	tons/yr x	10%	emitted after controls =	1.37 tons/yr
Screening	171.77	tons/yr x	10%	emitted after controls =	17.18 tons/yr
Conveying	0.00	tons/yr x	10%	emitted after controls =	0.00 tons/yr
Total emissions after controls:					569.13 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	1074.91	tons/yr x	50%	emitted after controls =	537.45	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					545.95	tons/yr
Crushing (primary)	26.49	tons/yr x	10%	emitted after controls =	2.65	tons/yr
Crushing (secondary)	19.87	tons/yr x	10%	emitted after controls =	1.99	tons/yr
Crushing (tertiary & quat	13.69	tons/yr x	10%	emitted after controls =	1.37	tons/yr
Screening	171.77	tons/yr x	10%	emitted after controls =	17.18	tons/yr
Conveying:	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Total nonfugitive emissions:					23.18	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) = Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)

=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

24.9	trip/hr x	
0.46	mile/trip x	
2	(round trip) x	
8760	hr/yr =	200674 miles per year

Method 1:

Ef =	k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]	
=	22.11	lb/mile
where k =	10.0	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

22.11 lb/mi x 200674 mi/yr = 2218.39 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2

Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
=	10.71	lb/mile
where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 200674.08 mi/yr = 1074.91 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef =	k*(0.0032)* (U/5)^1.3/(M/2)^1.4	
=	0.0016	lb/ton
where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Stationary
Plant 2

* * emissions before controls * *
(PM-10)

Storage	** see page 2 **							0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **							379.25	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	1,200	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.50	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	1,200	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	12.61	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	900	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	9.46	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	620	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.52	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	1,245	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	81.80	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	370	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.27	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								500.41	tons/yr	

Note: Tertiary crushing = 250 tph and quaternary crushing = 370 tph for a total of 620 tph

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	379.25	tons/yr x	50%	emitted after controls =	189.63	tons/yr
Loading & Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	9.46	tons/yr x	10%	emitted after controls =	0.95	tons/yr
Crushing (tertiary & quat	6.52	tons/yr x	10%	emitted after controls =	0.65	tons/yr
Screening	81.80	tons/yr x	10%	emitted after controls =	8.18	tons/yr
Conveying	2.27	tons/yr x	10%	emitted after controls =	0.23	tons/yr
Total emissions after controls:					209.39	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	379.25	tons/yr x	50%	emitted after controls =	189.63	tons/yr
Loading / Unloading	8.50	tons/yr x	100%	emitted after controls =	8.50	tons/yr
Total fugitive emissions:					198.12	tons/yr

Crushing (primary)	12.61	tons/yr x	10%	emitted after controls =	1.26	tons/yr
Crushing (secondary)	9.46	tons/yr x	10%	emitted after controls =	0.95	tons/yr
Crushing (tertiary & quat	6.52	tons/yr x	10%	emitted after controls =	0.65	tons/yr
Screening	81.80	tons/yr x	10%	emitted after controls =	8.18	tons/yr
Conveying:	2.27	tons/yr x	10%	emitted after controls =	0.23	tons/yr
Total nonfugitive emissions:					11.27	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

24.9	trip/hr x	
0.46	mile/trip x	
2	(round trip) x	
8760	hr/yr =	200674 miles per year

This method has a lower quality rating than Method 1.

Method 1:

Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]
= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 200674 mi/yr = 425.04 tons/yr
2000 lb/ton

Method 2:

Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]
= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 200674.08 mi/yr = 379.25 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4
= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

All Plants **NONFUGITIVE EMISSIONS ONLY - PSD DEFINITION**
Unpermitted Capacity Increases * * emissions before controls * *
Plus Unpermitted Emission Units (TSP)

Crushing (primary)	1,900	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	41.94	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	1,250	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	27.59	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary & quat	620	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.69	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	2,495	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	344.24	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	370	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.76	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								432.22	tons/yr	

* * emissions after controls * *

Crushing (primary)	41.94	tons/yr x	10%	emitted after controls =	4.19	tons/yr
Crushing (secondary)	27.59	tons/yr x	10%	emitted after controls =	2.76	tons/yr
Crushing (tertiary & quat	13.69	tons/yr x	10%	emitted after controls =	1.37	tons/yr
Screening	344.24	tons/yr x	10%	emitted after controls =	34.42	tons/yr
Conveying	4.76	tons/yr x	10%	emitted after controls =	0.48	tons/yr
Total emissions after controls:					43.22	tons/yr

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Portable Plant 2

* * emissions before controls * *

(TSP)

Storage	** see page 2 **						0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting	** see page 3 **						336.72	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	390	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	2.76	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	0	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	390	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	8.61	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary)	0	ton/hr x	0.00504	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	390	ton/hr x	0.0315	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	53.81	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	390	ton/hr x	0.00294	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	5.02	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:							406.92	tons/yr	

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	336.72	tons/yr x	50%	emitted after controls =	168.36	tons/yr
Loading & Unloading	2.76	tons/yr x	100%	emitted after controls =	2.76	tons/yr
Crushing (primary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Crushing (secondary)	8.61	tons/yr x	10%	emitted after controls =	0.86	tons/yr
Crushing (tertiary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Screening	53.81	tons/yr x	10%	emitted after controls =	5.38	tons/yr
Conveying	5.02	tons/yr x	10%	emitted after controls =	0.50	tons/yr
Total emissions after controls:					177.86	tons/yr

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

All Plants
Unpermitted Capacity Increases
Plus Unpermitted Emission Units

NONFUGITIVE EMISSIONS ONLY - PSD DEFINITION
* * emissions before controls * *
(PM-10)

Crushing (primary)	1,900	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	19.97	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Crushing (secondary)	1,250	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.14	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Crushing (tertiary & quat	620	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.52	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Screening	2,495	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	163.92	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	370	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.27	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								205.82	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)

* * emissions after controls * *

Crushing (primary)	19.97	tons/yr x	10%	emitted after controls =	2.00 tons/yr
Crushing (secondary)	13.14	tons/yr x	10%	emitted after controls =	1.31 tons/yr
Crushing (tertiary & quat	6.52	tons/yr x	10%	emitted after controls =	0.65 tons/yr
Screening	163.92	tons/yr x	10%	emitted after controls =	16.39 tons/yr
Conveying	2.27	tons/yr x	10%	emitted after controls =	0.23 tons/yr
Total emissions after controls:					20.58 tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	336.72	tons/yr x	50%	emitted after controls =	168.36	tons/yr
Loading / Unloading	2.76	tons/yr x	100%	emitted after controls =	2.76	tons/yr
Total fugitive emissions:					171.12	tons/yr

Crushing (primary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Crushing (secondary)	8.61	tons/yr x	10%	emitted after controls =	0.86	tons/yr
Crushing (tertiary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Screening	53.81	tons/yr x	10%	emitted after controls =	5.38	tons/yr
Conveying:	5.02	tons/yr x	10%	emitted after controls =	0.50	tons/yr
Total nonfugitive emissions:					6.74	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

Part 70 T 025-7484
Plt ID 025-00002

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

7.8	trip/hr x	
0.46	mile/trip x	
2	(round trip) x	
8760	hr/yr =	62861.8 miles per year

Method 1:

Ef =	k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]	
=	22.11	lb/mile
where k =	10.0	(particle size multiplier for PM-10 (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

22.11 lb/mi x 62861.8 mi/yr = 694.92 tons/yr
2000 lb/ton

This method has a lower quality rating than Method 1.

Method 2

Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
=	10.71	lb/mile
where k =	10.0	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

10.71 lb/mi x 62861.76 mi/yr = 336.72 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef =	k*(0.0032)* (U/5)^1.3/(M/2)^1.4	
=	0.0016	lb/ton
where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Stone Processing

Company Name:	Mulzer Crushed Stone, Inc.
Address City IN Zip:	RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70:	T 025-7484
Plt ID:	025-00002
Reviewer:	Mark L. Kramer
Date:	December 11, 1996

Portable Plant 2

* * emissions before controls * *

(PM-10)

Storage			** see page 2 **					0.00	tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting			** see page 3 **					118.80	tons/yr	AP-42 Ch.13.2.2 (Supplement E, 9/98)
Loading & Unloading	390	ton/hr x	0.0016	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.76	tons/yr	AP-42 Ch.13.2.4 (Fifth edition, 1/95)
Crushing (primary)	0	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (secondary)	390	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.10	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Crushing (tertiary)	0	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Screening	390	ton/hr x	0.015	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	25.62	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Conveyor Transfer	390	ton/hr x	0.0014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.39	tons/yr	AP-42 Ch.11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								153.68	tons/yr	

* * emissions after controls * *

Storage	0.00	tons/yr x	10%	emitted after controls =		0.00	tons/yr
Transporting	118.80	tons/yr x	50%	emitted after controls =		59.40	tons/yr
Loading & Unloading	2.76	tons/yr x	100%	emitted after controls =		2.76	tons/yr
Crushing (primary)	0.00	tons/yr x	10%	emitted after controls =		0.00	tons/yr
Crushing (secondary)	4.10	tons/yr x	10%	emitted after controls =		0.41	tons/yr
Crushing (tertiary)	0.00	tons/yr x	10%	emitted after controls =		0.00	tons/yr
Screening	25.62	tons/yr x	10%	emitted after controls =		2.56	tons/yr
Conveying	2.39	tons/yr x	10%	emitted after controls =		0.24	tons/yr
Total emissions after controls:						65.37	tons/yr

* * fugitive vs. nonfugitive * *

Storage	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Transporting	118.80	tons/yr x	50%	emitted after controls =	59.40	tons/yr
Loading / Unloading	2.76	tons/yr x	100%	emitted after controls =	2.76	tons/yr
Total fugitive emissions:					62.16	tons/yr

Crushing (primary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Crushing (secondary)	4.10	tons/yr x	10%	emitted after controls =	0.41	tons/yr
Crushing (tertiary)	0.00	tons/yr x	10%	emitted after controls =	0.00	tons/yr
Screening	25.62	tons/yr x	10%	emitted after controls =	2.56	tons/yr
Conveying:	2.39	tons/yr x	10%	emitted after controls =	0.24	tons/yr
Total nonfugitive emissions:					3.21	tons/yr

* * storage * *

Storage emissions, which result from wind erosion, are determined by the following calculations:

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.85	lb/acre/day
where s =	1.6	% silt content of material
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) =	Ef*sc*(40 cuft/ton)/(2000 lb/ton)/(43560 sqft/acre)/(25 ft)*(365 day/yr)	
=	0.00	tons/yr
where sc =	0	,000 tons storage capacity

Mulzer Crushed Stone, Inc.
Leavenworth, Indiana

* * unpaved roads * *

The following calculations determine the amount of emissions created by unpaved roads,
based on 8760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).
Two methods are provided for calculating emissions. The first does not consider natural mitigation due to precipitation.

7.8	trip/hr x	
0.46	mile/trip x	
2	(round trip) x	
8760	hr/yr =	62861.8 miles per year

This method has a lower quality rating than Method 1.

Method 1: Ef = k*[(s/12)^0.8]*[(W/3)^b]/[(M/0.2)^c]

= 4.24 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
M =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)

4.24 lb/mi x 62861.8 mi/yr = 133.14 tons/yr
2000 lb/ton

Method 2: Ef = {k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]

= 3.78 lb/mile

where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
s =	4.8	mean % silt content of unpaved roads
b =	0.5	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
c =	0.4	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
W =	63.53	tons average vehicle weight
Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

3.78 lb/mi x 62861.76 mi/yr = 118.80 tons/yr
2000 lb/ton

* * aggregate handling * *

The following calculations determine the amount of emissions created by truck
loading and unloading of aggregate, based on 8760 hours of use and AP-42, Ch 13.2.4 (Fifth edition, 1/95).

Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4

= 0.0016 lb/ton

where k =	0.74	(particle size multiplier)
U =	10	mile/hr mean wind speed
M =	5	% material moisture content

Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>600 HP)

Company Name: Mulzer Crushed Stone, Inc.
Address City IN Zip: RR1, Box 222 Alton County Road, Leavenworth, Indiana 47137
Part 70: T 025-7484
Plt ID: 025-00002
Reviewer: Mark L. Kramer
Date: December 11, 1996

Portable Plant 2

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Intermittent Electric Generator

Heat Input Capacity MM Btu/hr: 7.4

S= 0.5 = WEIGHT % SULFUR

Fuel Use (gal): 463028.6

Limited Fuel Use (gal): 174107.1 Equivalent to 39.0 TPY of NOx
126300 Pursuant to CP 025-9062 with an EF of 4.41 lbs/MMBtu

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.0573	0.5	3.2	0.1	0.85
			(1.01S)	*see below		
Potential Emission in tons/yr	3.24	1.86	16.2	103.7	2.92	27.6

*NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu
1 gallon of #2 fuel oil has a heating value of 140,000 Btu

B. Emissions calculated based on output rating (hp)

Heat Input Capacity Horsepower (hp): 0.0

Potential Throughput hp-hr/yr: 0.0

S= 0 = WEIGHT % SULFUR

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007		0.0000	0.000	0.00071	0.00550
		not provided	*(.00809S)*	*see below		
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0	0.0

*NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr
Note that the PM10 emission factor in lb/hp-hr is not provided in the Supplement B update of AP-42.
An average conversion factor of 1hp-hr = 7,000Btu is provided below.

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emission Factors are from AP 42 (Supplement B 10/96)Table 3.4-1 and Table 3.4-2

1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.3-1, Footnote a.

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Emission (tons/yr) = [Potential Throughput (hp-/hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)